Bodoni Systems Ltd

User Manual for inkWIZE 2

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Thank you for deciding on InkWIZE. InkWIZE gives you a hot folder-based color server for optimizing TIFF/JPEG image data and PDF data by means of DeviceLink profiles and ICC device profiles.
The principal application is optimisation and color conversion of CMYK printing data. Starting with Version 2.0, however, InkWIZE can also be used for media-neutral workflows with RGB data, or for Multicolor processing. The DeviceLink profiles used play a major role as regards the quality of the optimisation and color conversion of CMYK printing data. For a number of standard tasks, Bodoni Systems has developed Standard DeviceLink Profiles that you can purchase in a bundle with InkWIZE.
When using InkWIZE under a demo license for test purposes, you have all the available Bodoni Systems Standard DeviceLink Profiles at your disposal for color conversion, limiting the total amount of color, or saving ink.

Since automated color management often requires extensive configurations, especially for PDF files, we attached great importance to simple creation, duplication and modification of existing queues for standard tasks when designing InkWIZE.

We hope you enjoy testing the software, optimizing data and converting colors, and wish you every success!

The Bodoni Systems Team.

Simple operation for standard tasks

The main application of InkWIZE is the optimisation of PDF printing data by means of DeviceLink profiles. Using the Auto Setup Wizard it takes just a few mouse clicks to create and configure queues for standard tasks,

Flexible options for special requirements

InkWIZE offers a host of special options for experienced color management users who have special requirements. However, despite the ease of operation of InkWIZE, these options presuppose extensive knowledge in the fields of color management and PDF. Therefore, these special options are described after the configuration of InkWIZE with Auto Setup. Given the complexity of the subject matter and the effects of the individual options on the workflow, we suggest that you allow some time for reading.

Things you should know about PDF preflighting and InkWIZE

One common and important configuration of InkWIZE is a combination with solutions for PDF preflighting. At the end of this Manual, you will find a number of tips on how to combine the work steps of color conversion and PDF preflighting to the greatest possible effect. In addition tips about the handling of PDF files with transparencies are given.

InkWIZE Version 1.2 and higher can be integrated in Enfocus PowerSwitch or FullSwitch. Even complex workflows can be created as a result, from data receipt, sorting, preflighting, and color conversion, all the way to data distribution.

InkWIZE supports both Mac OS X (Version 10.3.9 and higher) and Windows XP/Vista/Windows 7. The Installer for the platform in question installs the program in the corresponding program folder of the operating system.

Computer-based license versus USB dongle license

A computer-based InkWIZE license always relates to the specific computer on which InkWIZE was installed, and can be requested online at short notice. The USB dongle version is a more flexible option than the computer-based license, the license being used on the InkWIZE USB dongle. The InkWIZE USB dongle is shipped with a full version of InkWIZE as standard, making it possible to use InkWIZE alternately on different computers.

Computer-based license for the demo and full version

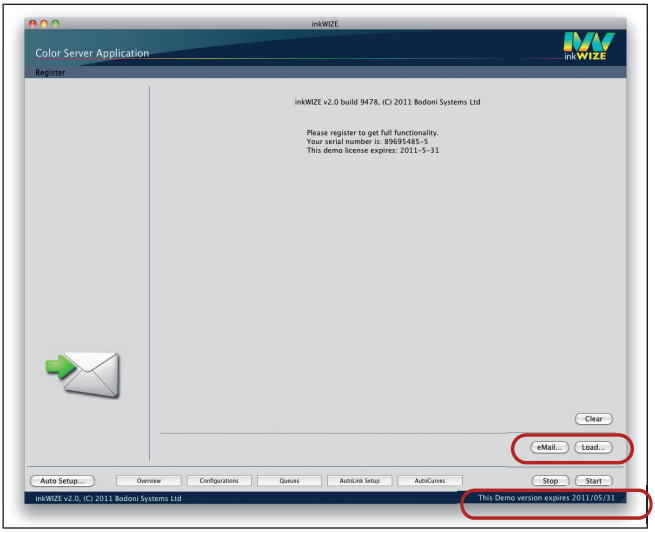
To be able to use InkWIZE, you have to install the computer-based license file provided by your InkWIZE dealer. In this context, a distinction is made between a temporary demo license and a full-version license. Printing data can be processed with both license types.

When using a demo license, the word "Demo" appears on the output data. The demo license also allows you to work with optimized Demo Standard DeviceLink Profiles from Bodoni Systems, which are included in the scope of supply of the Installer. In this way, you can put InkWIZE through its paces as a color server for image and PDF files before making a purchase.

If you purchase a full license for InkWIZE, you can no longer use the Demo DeviceLink Profiles, and they are no longer displayed in the dropdown lists for profile selection. The corresponding DeviceLink Sets are then available as a chargeable option, either separately or in a bundle together with InkWIZE.

Requesting and installing the computer-based license

After installing InkWIZE, the demo or full license can be requested with the ***Help/ Registration/E-Mail*** menu. An e-mail containing the necessary information for license generation then appears in your standard e-mail application. The dealer who provided you with InkWIZE should be entered as the addressee of the e-mail. After receiving



the license, you can load it with the ***Help/Registration/Load*** menu.
Once you have loaded the license, InkWIZE can be used only on this computer without a USB dongle. If you have a demo license, the words "Demo Version" and the expiry date are displayed at the bottom, right-hand edge of the InkWIZE window. This text does not appear if you have a full version without a time limit.

Optional InkWIZE modules

Bodoni Systems InkWIZE is available in different forms: as a color server for PDF and TIFF/JPEG files, or as a color server exclusively for TIFF and JPEG files. InkWIZE can optionally be extended to include the processing of Multicolor profiles, on-the-fly DeviceLink calculation with AutoLink, and the use of AutoCurves for preparing data for specific printing characteristics.

Upgrade from InkWIZE 1.2.x to 2.x

If, after installing the latest software, you want to compare whether the previous InkWIZE Version 1.2.x yields the same results as InkWIZE 2.x, or if you simply want to retain both versions to be on the safe side, you can run InkWIZE 1.2.x and InkWIZE 2.x on the same computer. To do so, you merely have to make sure that you do not overwrite the old version with the new one, or that you install the new version in a separate folder.
After installation, old queues from InkWIZE 1.2.x are converted when InkWIZE 2.x is started for the first time. The AutoLink function is not activated in the converted queues, since this function did not exist in the old version. To make sure that you can use the AutoLink function and all its advantages, you should subsequently activate the function manually in all converted queues. The main ***AutoLink Setup*** window is used to define the presettings for application of the function, which you can find under ***Configurations/Images*** or ***Vectors/Apply AutoLink***.
Embedded ICC device profiles in CMYK data were ignored in old queues. Thanks to the AutoLink function, professional DeviceLink conversion of files containing embedded ICC device profiles is possible in InkWIZE 2.0 and higher. Therefore, embedded ICC device profiles in CMYK files are now taken into account in newly created queues if AutoLink is licensed.

For many production workflows, Bodoni Systems provides preconfigured sets of Standard DeviceLink Profiles that can be used to convert colors, limit the total amount of color, and save ink. The make-up of the DeviceLink Sets for various printing processes and applications can be found in the document DeviceLinkSets-CoLoV3.4_EN.pdf. The Bodoni Systems Sets used comply with the official ICC standard for DeviceLink profiles.
Using the ***Auto Setup Wizard*** described on Page 34 it takes just a few mouse clicks to create queues for various optimisation and color conversion procedures for CMYK and other printing data.

Coded Profile Sets for the demo version
The demo version of InkWIZE comes with a large number of DeviceLink profiles for various applications. These profiles are located in InkWIZE's ***Demo_Profiles*** program folder. If a profile's name starts with ***Demo-***, it is a coded version that only works under an InkWIZE demo license. The demo profiles are no longer available as soon as the full version of InkWIZE is enabled.
The demo version of InkWIZE retains the structure of the sub-directories. This means that DeviceLink profiles with similar purposes are grouped in the selection menus, and separated by a dividing line. The InkWIZE demo version contains more than 240 profiles, classified according to different printing processes and subdivided in accordance with the following applications:

- CMYK-to-CMYK color space conversion profiles
- Limitation of the total amount of color
- Ink saving
- CMYK-to-Gray color space conversion profiles
- CMYK-to-CMYK conversion profiles, including ink saving
- RGB-to-CMYK separation profiles

Uncoded Profile Sets for the demo and full version
The uncoded Bodoni Systems Standard DeviceLink Profiles, which you can purchase as an option, are accessible with both the InkWIZE demo license and the full-version license. You install the DeviceLink profiles in the general Profiles folder of the operating system. The demo profiles are not displayed in the full version.

Profile Sets for international printing standards
The Standard DeviceLink Profiles of the CoLoV3/V4 series are based on the ECI, IFRA, Japan and GRACoL/SWOP profiles (status: July 2010). Detailed information on the applications of the ECI profiles can be found in the "MedienStandard Druck 2010" document from the Bundesverband Druck

und Medien at www.bvdm.org, and in the documentation of the individual profiles in the download area of www.eci.org.

Information about GRACoL-, SWOP and SNAP profiles can be found on the webpages www.gracol.org, www.swop.org and www.snapquality.com. Information about color profiles and characterisation data for Japan are available in the color management area of the Ghent Working Group at www.gwg.org and in the registry of the ICC www.color.org.

DeviceLink profiles ending in ***CoLoV3/V4*** contain special, internal identifiers that permit automatic setting of PDF/X color information in InkWIZE with the ***Auto Setup Wizard*** (see the chapter Setting and importing PDF/X information).

DeviceLink Sets are available for the following international printing standards:

ISOcoated_v2	Offset, coated paper	FOGRA39
ISOcoated	Offset, coated	
	(old standard –> FOGRA39)	FOGRA27
ISOwebcoated	Web offset, LWC paper	
	(old standard –> FOGRA45 & 46)	FOGRA28
ISOuncoated	Web offset, uncoated	
	(old standard –> FOGRA47)	FOGRA29
ISOuncoatedyellowish	Offset, uncoated yellowish	FOGRA30
ISOcofcoated	Continuous forms, coated	FOGRA31
ISOcofuncoated	Continuous forms, uncoated	FOGRA32
SCpaperECI	Web offset, SC paper	FOGRA40
PSOmfc	Web offset, MFC paper	FOGRA41
PSOsnp	Web offset, standard newsprint	FOGRA42
PSOcoatedNP	Offset, coated,	
	FM with 28% dot gain	FOGRA43
PSOuncoatedNP	Offset, uncoated,	
	FM with 28% dot gain	FOGRA44
ISOnewspaper26	Newspaper	
	26% dot gain	FRA26
PSO LWC Improved	Web offset, improved LWC paper	FOGRA45
PSO LWC Standard	Web offset, standard LWC paper	FOGRA46
PSOuncoated	Offset, uncoated	FOGRA47
PSR LWC Plus V2	ECI gravure, LWC Plus paper	
PSR LWC Standard V2	ECI gravure, LWC Standard paper	
PSR SC Plus V2	ECI gravure, SC Plus paper	
PSR SC Standard V2	ECI gravure, SC Standard paper	
PSRhwc	ECI gravure, HWC paper (old standard)	
PSRlwc	ECI gravure, LWC paper (old standard)	
PSRsc	ECI gravure, SC paper (old standard)	

PSRmf	ECI gravure, MF paper	
GRACoL1	US offset/gravure, Grade1 (coated)	CGATS TR006
SWOP3	US offset/gravure, Grade3 (LWC white)	CGATS TR003
SWOP5	US offset/gravure, Grade5 (LWC yellowish)	CGATS TR005
SNAP2007	US newspaper	CGATS TR007
JapanColor2001Coated	Japan offset, coated	JC200103
JapanColor2001Uncoated	Japan offset, uncoated	JC200104
JapanColor2003WebCoated	Japan web offset, LWC	JCW2003
JapanColorWebcoated_Ad	Japan web offset, LWC (old printing standard)	
JapanColor2002Newspaper	Japan newspaper	JCN2002

DeviceLink profiles for color space conversion

Profiles for color space conversion convert the data from one printing standard to another. These DeviceLink Sets are based on ECI profiles for printing according to ISO 12647-2/PSO, or on the IDEAlliance GRACoL and SWOP profiles for printing according to G7 Guidelines. Conversion profiles whose name includes _***TACxxx***_ optimally preserve the color composition of the source data (separation preservation) and merely limit the total amount of color (TAC) in accordance with the target color space.

Profiles for color space conversion are structured according to the following system:
SourceColorSpace_to_TargetColorSpace_TACxxx_CoLoV3.icc

Example: ***ISOcoatv2_to_PSOuncoat_TAC280_CoLoV3.icc*** converts printing data from the ISOcoatedv2 color space for coated paper to PSOuncoated for uncoated papers, limiting the total amount of color to 280% in the process.

DeviceLink profiles for limiting the total amount of color

These profiles limit the total amount of color for a specific printing standard, without performing color conversion.

Profiles for limiting the total amount of color are structured according to the following system:
PrintingStandard_TACxxx_CoLoV3.icc

Example: ***ISOcoatedV2_TAC300_CoLoV3.icc*** limits the total amount of color to 300% for offset printing on coated paper.
Profiles are also available for limiting the total amount of color to 200% for newspaper printing.

sDeviceLink profiles for converting CMYK data to Gray

When converting CMYK data to Gray using ICC device profiles, 100% black in the CMYK data is not converted to 100% black in the Gray color space. Depending on the source and target profiles, it is instead only converted to 96%, for example. To prevent the resultant "screening", e.g. of black text, we offer CMYK-to-Gray DeviceLink profiles for all supported printing standards, ensuring that 100% black is also preserved as 100% black in the Gray color space.

The nomenclature of these profiles is as follows:
SourceColorSpace_to_TargetColorSpace_Gray_CoLoV3.icc

DeviceLink profiles for saving ink

The Bodoni Systems Standard Profile Sets for sheet-fed offset, web offset and newspaper printing each contain DeviceLink profiles for saving ink whose quality compares well with that of far more expensive solutions.
Bodoni Systems DeviceLink profiles for saving ink are based on advanced technology for increasing the black component of the printing data, while simultaneously reducing the CMY component. The algorithms used for this purpose enable far better data optimisation compared to ICC-based color conversion with strong GCR. Compared to ICC-based conversion with GCR, DeviceLink profiles display much softer transitions from tertiary colors to pure colors, for example, and additionally offer the possibility of preserving colors with a high black component. The advantages on the press include better printability on difficult papers, shorter makeready times, greater stability over the length of the run, and ink savings (faster drying, and thus higher press speeds, as well as a greater stack height on sheet-fed presses).

Bodoni Systems DeviceLink profiles for saving just a small amount of ink retain the original color composition, and only very slightly increase the black component, while reducing the CMY components at the same time. They additionally limit the total amount of color, very much like the DeviceLink profiles for limiting the total amount of color. Printshops that have successfully applied DeviceLink profiles to limit the total amount of color will usually have no difficulty switching to Bodoni Systems DeviceLink profiles for saving small or moderate amounts of ink.

Profiles for saving larger amounts of ink call for more extensive compliance with the standardisation specifications, as well as a regular check of the dot gains and solid ink densities for black.

Depending on application, Bodoni Systems provides SaveInk profiles with three different intensities for all relevant color standards:

- ***PrintingStandard__SaveNeutralxxx_CoLoV3.icc*** moderately increases the black component in the neutral color areas. This is ideal for printshops that are looking to make a quick start on saving ink and first want to gather some practical experience. These profiles primarily serve to stabilize the printing process and are less suitable for saving ink.
- ***PrintingStandard__SaveStrongxxx_CoLoV3.icc*** greatly increases the black component, and targets printshops that have their printing process completely under control in accordance with the applicable standards and have already used SaveNeutral successfully.
- ***PrintingStandard__SaveMaxxxx_CoLoV3.icc*** maximizes the black component, and additionally reduces the total amount of color to approx. 20% less than the industry standard. This calls for very experienced printers and an excellent mastery of standardization.

DeviceLink profiles for color conversion + ink saving

If you have already gained positive experience with saving ink in your printshop, and are then sent printing data that does not exactly comply with your printing standard, a combination of color space conversion and ink saving offers the best possible color quality.

With its Version ***CoLoV3*** profiles, Bodoni Systems provides profiles that combine the two steps in a single profile. The intensity of the increase in the black component is similar to that of "SaveStrong" profiles for saving ink without color conversion.

The nomenclature of these profiles is as follows:
SourceColorSpace_to_TargetColorSpace_Savexxx_CoLoV3.icc

Example: ***ISOcoatv2_to_PSOuncoat_Save280_CoLoV3.icc*** converts from coated to uncoated paper, saves ink in the process, and limits the total amount of color to 280%.

RGB-to-CMYK separation profiles

When separating RGB data, the advantages of DeviceLink profiles compared to ICC device profiles lie in very smooth and more highly saturated separations, as well as in the preservation of the purity of primary and secondary colors. We therefore offer separation profiles based on sRGB, AdobeRGB(1998), and eciRGB V2 for the most important international printing standards. These profiles are identified by the ending ***CoLoV3***. We pay special attention to preserving the purity of primary colors, in particular, since this leads to harmonious separation of neighboring colors. Preservation of the purity of primary colors was dispensed with in cases where this is not entirely possible. These profiles differ in that they are identified by the ending ***CoLoV4***.

The nomenclature of these profiles is as follows:
SourceColorSpace_to_TargetColorSpace_TACxxx_CoLoV3.icc

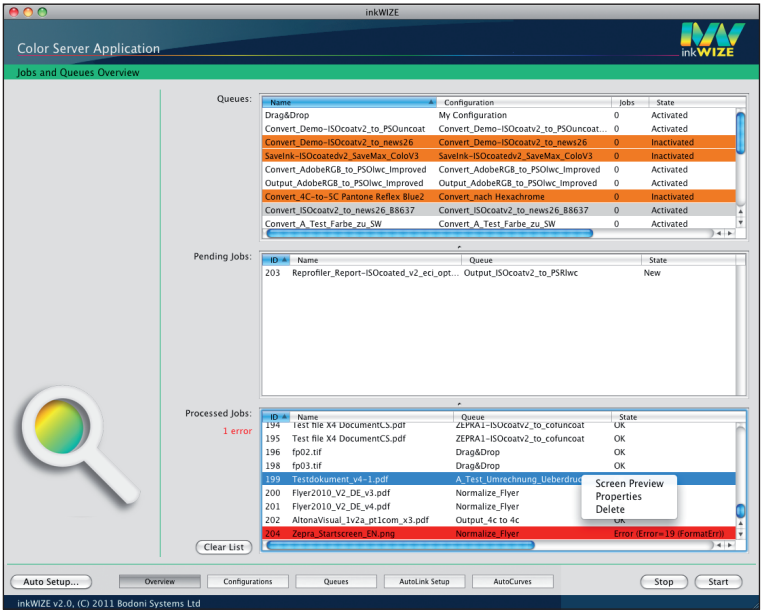
InkWIZE 2 is based on five main windows. Three of the main windows – ***Overview, Configurations*** and ***Queues*** – are used for basic configuration of InkWIZE. You can set these windows manually, step by step, in accordance with your requirements, or quickly and reliably configure them completely for standard tasks with the ***Auto Setup Wizard***.

The ***Define Profile Assignments*** window (button: ***AutoLink Setup***) additionally offers you the option of falling back on DeviceLink profiles when converting the color of image or vector data in PDF, TIFF or JPEG format to a document color space or an output target.

The ***Create AutoCurves Curves*** window (button: ***AutoCurves***) is used to generate curves that you can apply to your files at the end of the conversion process, e.g. for fine-tuning to a specific printing process.

Jobs and Queues Overview

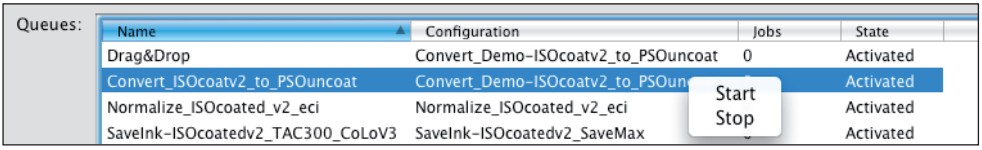
The ***Jobs and Queues Overview*** window (button: ***Overview***) gives you an overview of your queues and the associated configurations in InkWIZE.



The screenshot shows different queues among them for example two queues for color conversion of ISO Coated V2 data to the PSO Uncoated ISO12647eci and ISO Newspaper26 printing standards.

The queues created with the ***Auto Setup Wizard*** have the same names as the associated configurations. Queues and their configurations are generally managed separately from each other in InkWIZE. The advantage of this is

that a different configuration can be assigned to a queue at a later date. The Define Queues section tells you how to assign a different configuration to a queue.



Using the right mouse button, a single click allows you to individually start or stop each queue. The ***Start*** and ***Stop*** buttons at the bottom right in the window enable all queues to be started or stopped directly. A queue that is inactive or invalid is highlighted in orange. Invalid queues may occur as a result of incomplete entries or missing profiles. The tables towards the bottom of the window show which jobs are still pending, and which have already been processed. If errors occur when processing files, or if InkWIZE detects non-supported file types, they are highlighted in red in the ***Processed Jobs*** list. Both the ***Pending Jobs*** and the ***Processed Jobs*** lists can be sorted by ***ID***, file ***name***, ***queue*** and ***status***. For example by clicking on the ***ID*** column the newest converted job is shown on top, by clicking on the ***Status*** column all files with errors are shown on top.

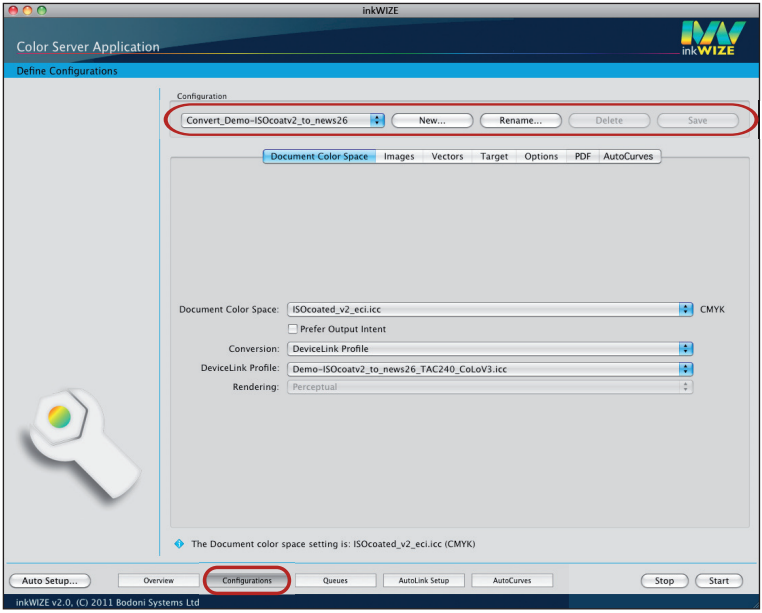
Typically the names of the queue and the associated configuration are the same. In case the names differ - for example because you have assigned another configuration to a queue - the configuration name is shown in brackets behind the queue name.

A click with the right mouse button on a job under ***Pending Jobs*** or ***Processed Jobs*** opens a context-sensitive menu, with which you can create a soft proof (***Screen Preview***), open (***Show Job Properties***) or save a Job Report (***Save Job Properties***), or ***delete*** the job. You can find more information on this subject in the chapter Special workflow options.

Note: Incidentally, you can very easily use Drag&Drop to specifically drag your data onto one of the configurations in the queues overview. The file to be converted is then automatically processed using the settings in the configuration onto which you dragged it. Your converted file is subsequently saved at the same location as the original file. The Job ID is added to the file name. If you also want to have the name of the configuration added to the converted file, enter whatever text you like for the ***Drag&Drop*** queue under ***Append Text*** in the ***Queues*** dialog. If no text is entered there, no configuration name is added.

Define Configurations

Define Configurations (button: ***Configurations***) is used to make all the settings relating to the handling of colors and PDF-specific parameters. The individual items are explained in more detail later on in the Manual.
The upper area of the window allows you to select existing configurations, create new ones, or rename, delete and save any configurations.



If you have selected an existing configuration and would like to duplicate it, click on ***New....*** Then enter a new name, make any necessary changes to the settings, and click on ***Save***.
A configuration can also be renamed at any time. To do so, select the configuration in the dropdown list, click on the ***Rename...*** button, change the name, and confirm with ***OK***. Queues using this configuration are automatically updated.
If you have made a modification in the ***Configurations*** window, you can ***Save*** it. Should you forget to save after changing the settings, and then switch to a different dialog, e.g. to the Jobs and Queues Overview window, you are automatically asked whether you want to save the changes, so that they are not lost or do not unintentionally overwrite existing settings. If you select the ***No*** button in the warning dialog that appears, your changes are lost and the configuration remains as it was before you made the changes.
The ***Queues*** dialog allows you to link a queue to a configuration.

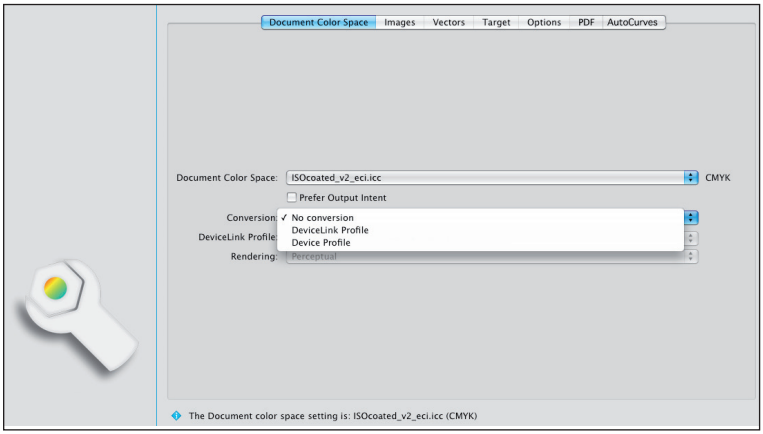
As a guide and for reliable matching and setting of the configurations, the preset ***Document color space*** is always indicated at the bottom of the ***Define Configurations*** window.

Document Color Space

InkWIZE focuses on processing PDF files for printing. However, the same configuration can also be used to process TIFF and JPEG images. You can use ***Document Color Space*** to specify how you want the entire PDF document to be handled. To do so, you select the ICC device profile belonging to the PDF document. You can additionally allow InkWIZE to access the Output Intent (ICC device profile) that is always attached to PDF/X-compliant documents. By "document color space", we mean the output intent of a PDF/X file. The PDF/X file can contain the Gray, RGB, CMYK or Multicolor color systems. Accordingly, the document color space can take on one of these color systems. The color system of the selected document color space is displayed alongside the dropdown menu.

You have a choice of three conversion options:

- ***No conversion*** of the entire PDF document,
- Conversion of the complete PDF document with a ***DeviceLink profile***,
- Conversion of the PDF document with a ***Device Profile***, from the document color space to the ICC device profile selected under ***Target***. As soon as you decide to work with ICC device profiles, you have to select a corresponding ***Rendering*** Intent (color conversion method).

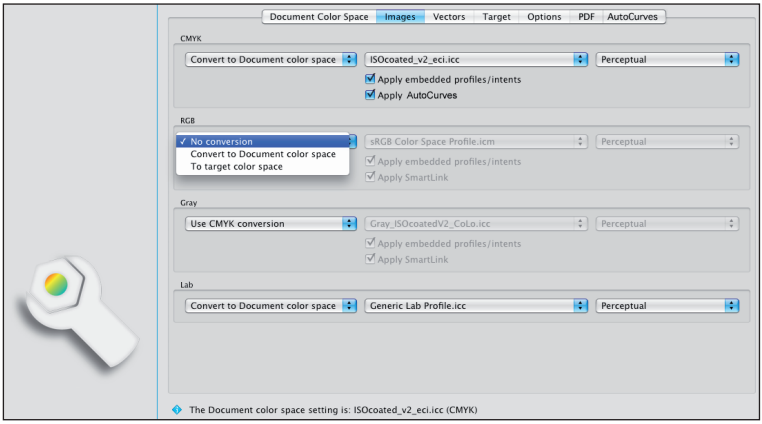


For reasons of quality, we recommend DeviceLink conversion for full-page PDF conversion. If the document color space is unknown, and can also not be read out as the output intent, you have to either assume a document color space, determine the output intent or speak to the artwork originator.

Images

Under ***Images***, you define how individual image objects in a PDF file, and TIFF and JPEG image data, are to be handled. You always have three conversion options for CMYK, RGB, Gray, and Lab images:

- Never convert the image data (***No Conversion***)
- Convert the image data to the ICC device profile selected under ***Document Color Space***,
- Use ICC conversion to convert the image data from the source color space to the ICC device profile selected under ***Target***.



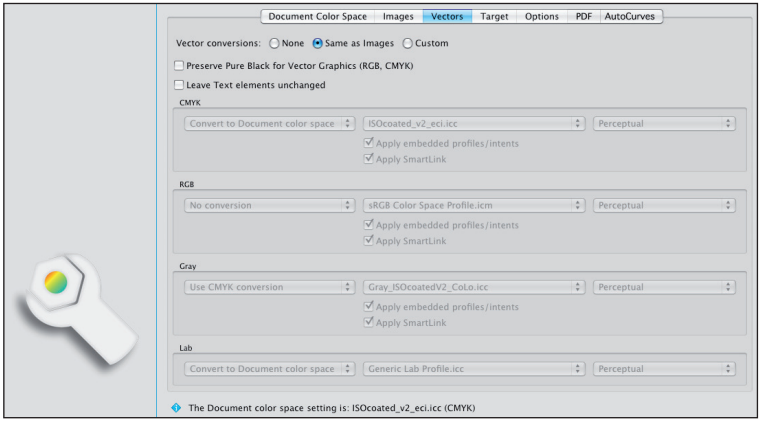
One extra thing: Files composed of gray can also be converted with the ***Use CMYK conversion*** option. In this case, the gray components are converted with the same settings as for CMYK. If you have set DeviceLink conversion under CMYK, which is the case if ***AutoLink*** is applied, images composed of gray also remain gray after conversion. You can find more detailed information under Handling of gray objects.

If embedded profiles are present in the image material, the ***Apply embedded profiles/intents*** option ensures that they are given preference over the selected profile. In PDF files, the embedded rendering intent is read out at the same time as the profiles, whereas the rendering intent set in InkWIZE is used for converting TIFF and JPEG images.

If you use the ***Apply AutoLink*** button, you can already use DeviceLink profiles and all their advantages when converting from the source color space to the target or document color space. The source color space refers to manually set ICC device profiles or embedded device profiles in your files. You can read more on the subject under Define Profile Assignments (AutoLink Setup).

Vectors

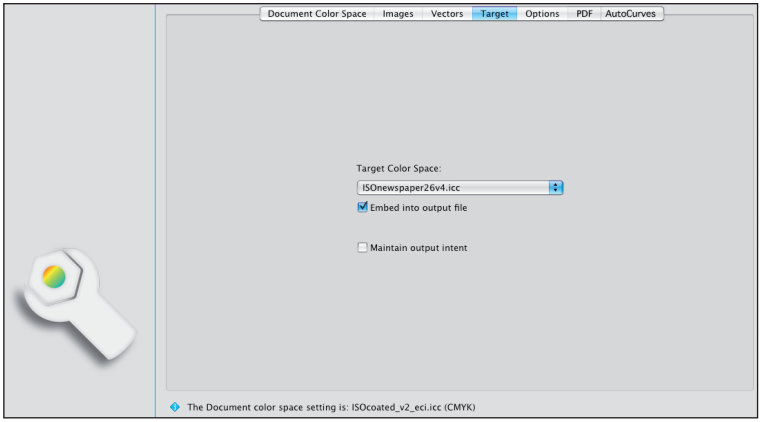
As standard, vectors (graphics) are processed using the same settings as for images. However, different profile settings are also possible. Moreover, you can influence the conversion of text and pure vector black when dealing with vectors (see also InkWIZE configurations in detail).



As already described in the Images section, the AutoLink function also offers the option of DeviceLink conversion from the source color space to the target or document color space when handling vectors.

Target

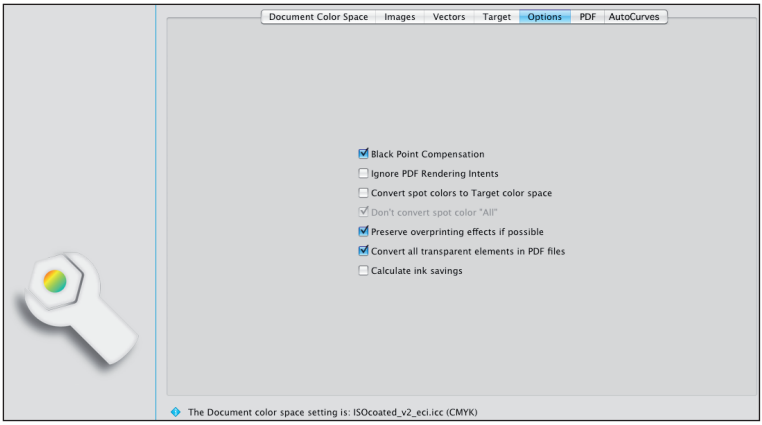
Target is used to define the target profile for color conversion. In addition, you use this window to specify whether or not the target profile (equivalent to the ***Output Intent*** in the case of a PDF/X file) is embedded in the file after conversion.



The ***Maintain output intent*** function is a special function that is required for the Auto Setup queue ***Normalize to document color space or output intent***.

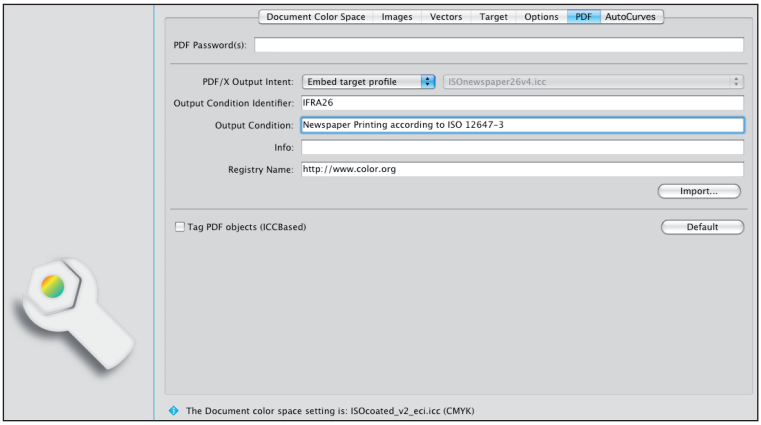
Options

The ***Options*** encompass a variety of setting options regarding the conversion methods, including in relation to spot colors and overprinting properties. In addition, the ink savings when using SaveInk profiles can be calculated. You can find more detailed information under Conversion options.



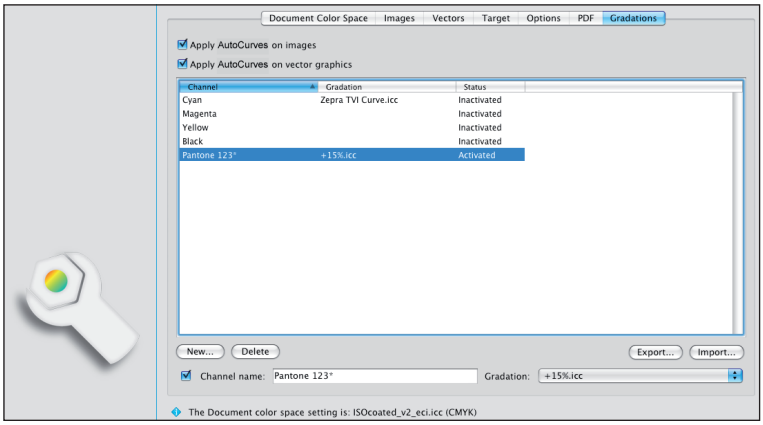
PDF

Under ***PDF***, you can define PDF-specific settings. In this context, see Setting and importing PDF/X information.



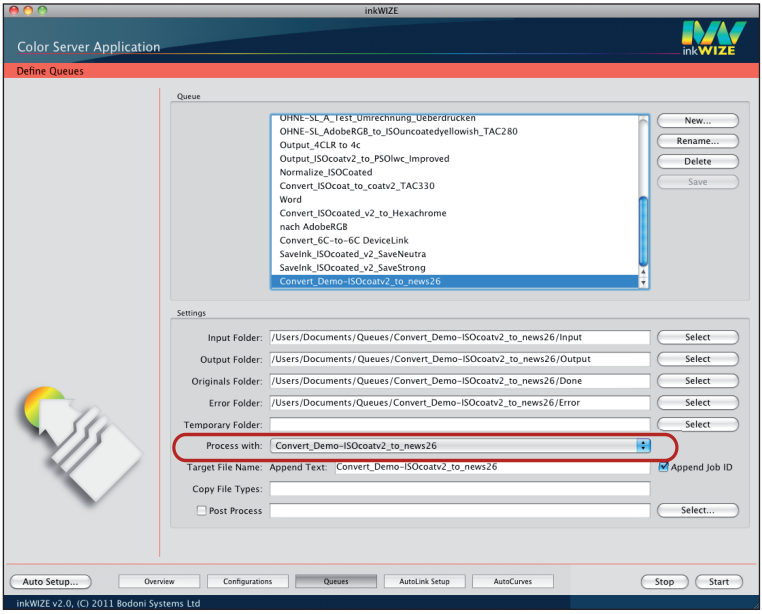
AutoCurves

AutoCurves are curves that you can apply to the individual channels of your data at the end of the conversion operation. The procedure is similar to that for controlling the tone value increase (TVI) curves when exposing printing plates. With the help of AutoCurves, you can apply tone value corrections both to CMYK channels and to spot-color channels. AutoCurves can be activated either after or instead of color conversion. You can read more under AutoCurves curves for the printing process.

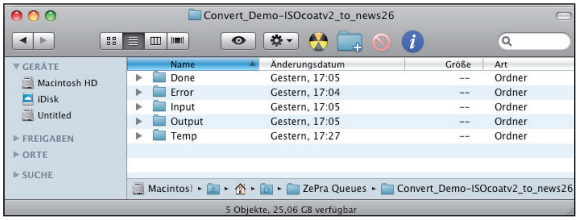


Define Queues

This window is used to define queues. To do so, you create folders, assign a configuration to the queue, and specify whether and how files are to be renamed after processing. The ***New*** button can be used to manually create a new queue, comprising the queue name and the sub-folders. To configure the newly created queue, first select the queue, and then the configuration from the dropdown list under ***Settings/Process with***.

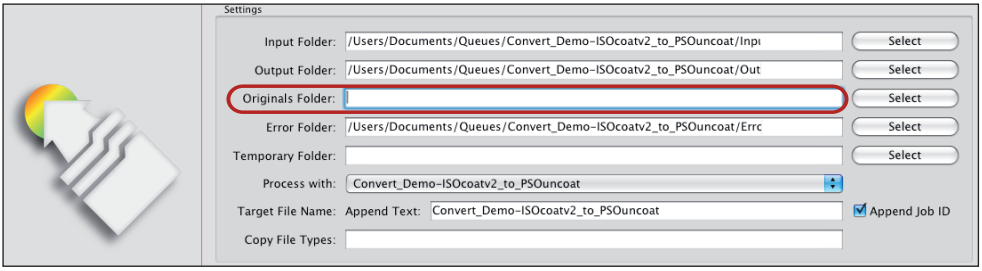


Note: We recommend use of the ***Auto Setup Wizard*** to create the queues for standard tasks, since this is much faster. You only need the queues dialog if you want to specifically modify the way files are processed.



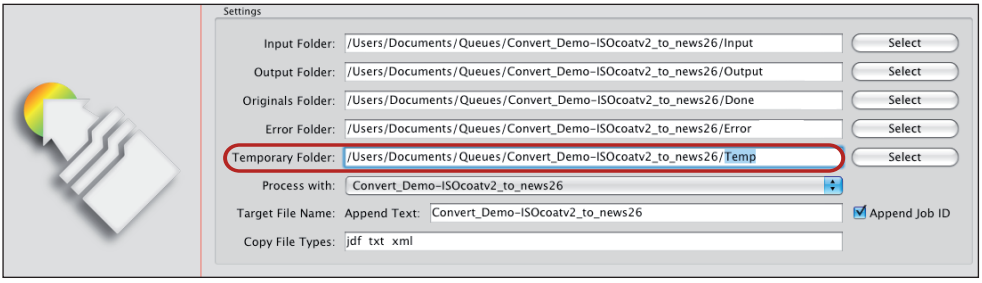
After creating queues, put the files whose color is to be converted in the ***Input*** folder. You will subsequently find the original files in the ***Done*** folder. The color-converted files can be found in the ***Output*** folder. Files types that cannot be processed by InkWIZE, and files whose conversion was errored, are saved in the ***Error*** folder.

If you want to prevent the original file from being moved from the ***Input*** folder to the ***Done*** folder, simply delete the path data of the ***Done Folder.*** InkWIZE deletes the original files after conversion if no ***Done Folder*** is specified. This is useful for workflows where the original files are already saved elsewhere and the hard disk is not to be burdened with additional copies when large amounts of data have to be handled. Needless to say, the ***Done Folder*** is automatically created and used in a ***normal*** queue, meaning that your original files are always saved.



Note: If you or your workflow system have created folder structures with several sub-folders for file management and processing, you can transfer this sub-folder structure directly to InkWIZE. Simply put the entire processing folder structure in the ***Input*** folder. You will subsequently find the same directory structure, and the converted files in the corresponding sub-folder, in your ***Output*** folder.

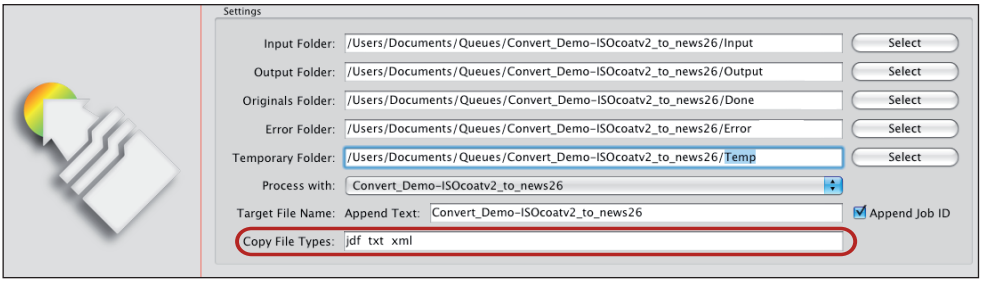
If InkWIZE is integrated in another workflow system, the completely converted files are usually taken over automatically by the other workflow system for further processing. To make sure that the workflow system does not attempt to access the files while the InkWIZE conversion process is still in progress, you should create an additional, temporary folder. This ***Temporary Folder*** manages the file until conversion has been completely finished. Only then are the data moved to the ***Output Folder***. In the standard procedure, however, no Temporary Folder is created when defining new queues.



Under ***Target File Name***: ***Append Text***, you can attach a suffix to the original file name. The name of the configuration is appended as standard. If this suffix is too long for your liking, you can modify and shorten the text. The ***Append Job ID*** option generates a unique, consecutive number and appends it to the original file name.

The ***Copy File Types*** function enables you, for example, to transfer "control files" belonging to a file (JDF, XML, TXT or similar file types) along with your original files. To do so, just enter the file types of the control files in the text field. Should there be several file types, you can separate their entries with blanks or commas, as illustrated in the screenshot. Control files having exactly the same name as the file to be processed are both copied into the ***Output Folder*** and moved to the ***Done Folder.***

Note: In previous versions of InkWIZE before version 1.2.5, unknown file types, which also include text files and control files, were always moved to the ***Error Folder***. Merging these unknown file types with the master file entailed additional manual effort in certain workflows having links to databases or MIS systems. For the file merging function to automatically work correctly, you not only have to enter the file ending in the ***Copy File Types*** text field, but also ensure that the control file has exactly the same name as the associated file to be converted. If the names of the control file and the converted file do not match, the control file is moved to the ***Error Folder.*** InkWIZE recognizes associated files of this kind, no longer displays them as independent jobs in the overview, and ensures that the same text and the same Job ID are appended as used for the file to be converted. If necessary, entering several file types makes it possible to simultaneously process several additional files belonging to an original file.



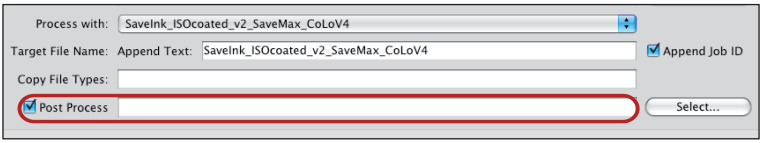
Note: The Drag&Drop function is particularly helpful for testing a configuration. To do so, a configuration can first be assigned to the Drag&Drop queue. Then, the files are simply dragged onto InkWIZE's Overview window.

The converted files are stored alongside the original files, possibly with the appended configuration name and the Job ID.

If you use the ***Auto Setup Wizard***, the hot folders are created automatically, and the matching configurations assigned. The file name of the optimized PDF file contains both the queue name and the Job ID. If you work with the Bodoni Systems Standard DeviceLink Profiles, Auto Setup automatically enters all the relevant PDF/X information (on this subject, see also the chapter Setting and importing PDF/X information).

When dealing with all the common tasks for optimizing PDF files, you can work with the standard queues that can be defined using the ***Auto Setup Wizard***. However, there are also cases where it may make sense to modify a few details of the settings of a standard queue, or to duplicate a standard queue and then make changes. However, before you tackle this topic, you first need a brief introduction to the automated color management of image and PDF files. This particularly relates to the combination of PDF preflighting solutions with InkWIZE. You can read more on the subject in the chapter InkWIZE in combination with other programs and workflows.

With the ***Post Process*** feature you may enable a separate processing for each file after color conversion in that particular queue in InkWIZE. Select a script or batch file or manually enter a comand line expression in the text field. If you just enable the checkbox without selecting a script as shown in the screen shot below each file running through that queue will be opened up with the application defined for opening the specific file type in your operating system (e.g. opening PDF files with Adobe Acrobat etc.). The ***Post Process*** feature is not available for Drag&Drop.

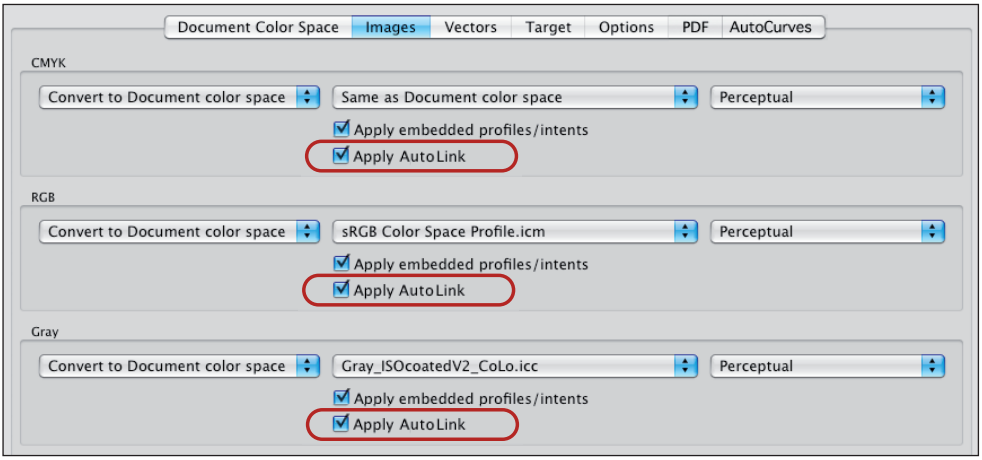


Define Profile Assignments (AutoLink Setup)

The AutoLink function ensures that you can use DeviceLink profiles instead of normal ICC conversions for every possible profile combination, for conversions to the target profile or the document color space. This means that you can perform every conversion step with DeviceLink profiles, without exception.

An example: A PDF/X document contains CMYK objects with embedded ICC device profiles, and is to be converted from ISO Coated v2 to PSO Uncoated. Normally, the embedded ICC device profile performs ICC-based color conversion to either the document or the target color space. In the case of CMYK-to-CMYK color conversions, however, this leads to a number of problems on the press. In contrast, DeviceLink conversion guarantees that the color composition of the source data, and also pure colors, are optimally preserved.

DeviceLink conversion also has advantages when dealing with RGB objects with embedded profiles. Secondary colors are composed of four colors when using normal ICC-based conversion. If you perform conversion with the DeviceLink profiles of the ***AutoLink Setup***, the secondary colors also remain pure after conversion, i.e. the secondary colors are composed of just two colors. In addition, the yellow primary color in CMYK remains pure, is not contaminated, and primary and secondary colors are rendered with high saturation. The desaturation customary with ICC-based conversion is thus avoided. For Gray-to-Gray conversion, Bodoni Systems DeviceLink profiles ensure that 100% gray also remains 100% black, and is not composed of CMYK components following conversion.



The AutoLink function is our name for the use of dynamic DeviceLink profiles. Dynamic DeviceLink profiles are calculated on-the-fly and in the background from preset ICC device profiles. InkWIZE uses dynamic DeviceLink profiles not only for RGB-to-CMYK conversion, but also for CMYK-to-CMYK, Gray-to-Gray, Gray-to-RGB, Gray-to-CMYK, and CMYK-to-Gray.

Note: As a result of using the AutoLink function, you do not need any additional DeviceLink generation software for the above-mentioned color space combinations. However, profiling tools are still necessary for special applications but not limited to the creation of SaveInk profiles, Multicolor profiles, editing, and printer profiles. In addition, the main conversion from the document color space to the target color space which you select with the ***Auto Setup Wizard*** presupposes separate DeviceLink profiles that were not created with AutoLink. You will find more information under Creating your own DeviceLink profiles.

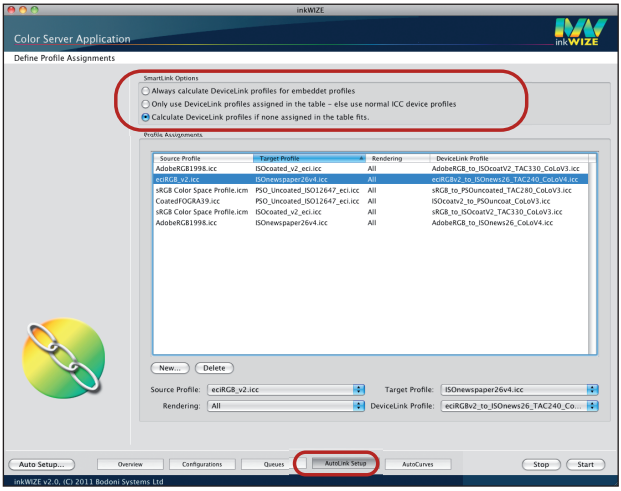
One very special feature of InkWIZE is that you can use existing, possibly already practice-tested or special DeviceLink profiles that are based on the ICC standard. You determine yourself whether InkWIZE accesses existing DeviceLink profiles, or new ones calculated on-the-fly. You can also decide yourself whether and to what extent dynamic DeviceLink profiles are used for data conversion.
In the main ***Configurations/Images*** and/or ***Vectors*** windows, you can activate the ***Apply AutoLink*** option to specify the use of DeviceLink profiles when converting images and/or vectors from the source color space to the target or document color space.

An additional license is necessary activate the AutoLink functions.

AutoLink settings

You can make your AutoLink settings manually or, better still, automatically with ***Auto Setup***.

When making manual settings, the first step is to activate the use of DeviceLink profiles on the ***Images*** and ***Vectors*** tabs in the ***Configurations*** by selecting the ***Apply AutoLink*** option.



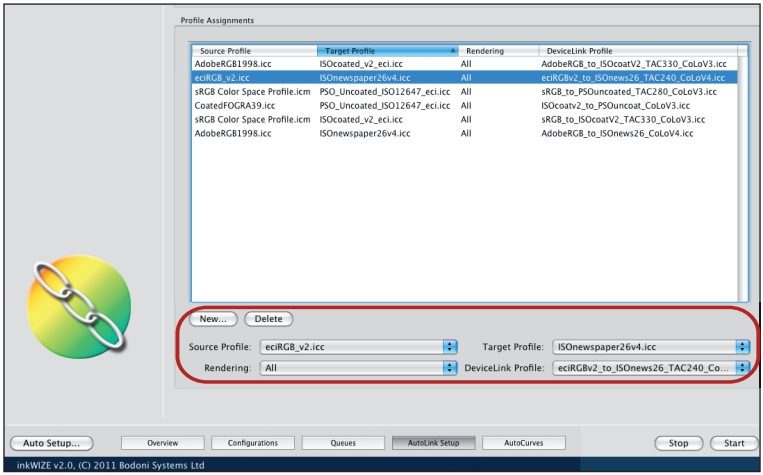
The prerequisite for calculating a DeviceLink profile based on the selected source and target profiles is that you activate the ***Always calculate DeviceLink profiles for embedded profiles*** option in the ***AutoLink Setup*** window.

If you instead select the ***Only use DeviceLink profiles assigned in the table – otherwise use normal ICC device profiles*** option, InkWIZE only applies the profiles in the AutoLink table if you have saved corresponding profiles there. So, you have to intervene in the AutoLink table yourself in order to make the settings in accordance with your requirements. The profile combinations in the ***AutoLink Setup*** window must match the preset profile combination in the queue configurations, including the conversion method (***Rendering***) in order to be used. This also applies to the device profiles and intents in objects in the PDF file, should these have been activated with ***Images/Vectors and Apply embedded profiles/intents***. Otherwise, ICC device profiles are used for conversion from the source color space to the target/document color space.

The rapid and reliable workflow configuration method with ***Auto Setup*** always applies the third option, ***Calculate DeviceLink profiles if none assigned in the table fits***. This means that priority is again given to use of the profiles in the table, on the conditions described in the section above. If no matching profiles are found in the table, appropriate DeviceLink profiles are automatically calculated on-the-fly from the source/target/document profiles you have set.

Create AutoLink Table

To add previously created DeviceLink profiles to the AutoLink table, click on ***New...*** at the bottom edge of the ***AutoLink Setup*** window and select a combination of source and target profile, and a rendering. The DeviceLink profiles matching this combination of color spaces are displayed in the dropdown menu. Alternatively, you can also first activate the DeviceLink profile directly with the ***DeviceLink Profile*** dropdown menu. If the DeviceLink profile contains the PSID Tag (as usually the case with Bodoni Systems profiles), the source and target profiles are automatically searched for, and displayed if found.



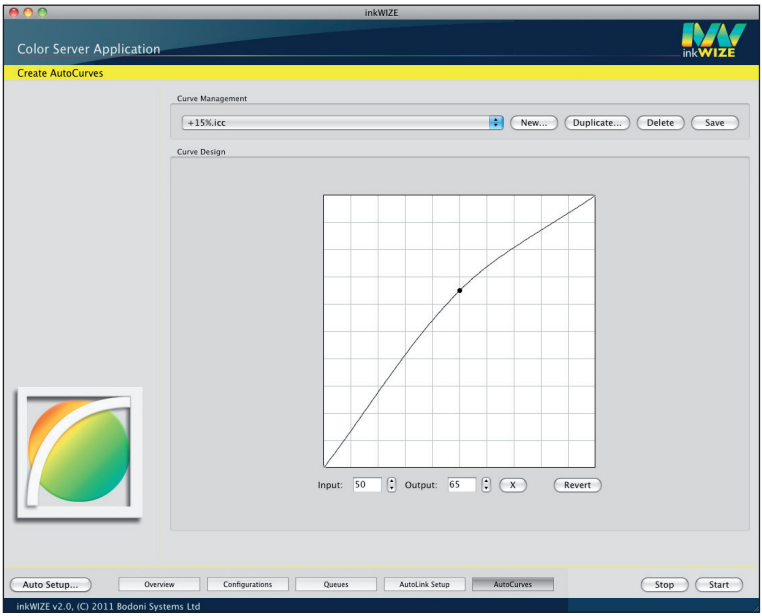
To make sure that the selected DeviceLink profile is used, it is important that not only the source and target profiles of the DeviceLink match your settings in the ***Configurations***, but also the rendering intent. If you want the DeviceLink profile to be applied, regardless of which rendering intent is selected with your ***Configurations*** or read out, set the ***Rendering*** to ***All*** under ***Define Profile Assignments***. In this way, the DeviceLink profile is always applied to every rendering intent.

In the overview dialog InkWIZE shows the progress of each color conversion in a status line. If AutoLink is enabled the status line informs you if a DeviceLink profile is calculated on-the-fly. If you want to know for which color spaces AutoLink has created DeviceLink profiles or if your preselected DeviceLink profiles in the AutoLink Setup dialog have been used, you can display the ***Job Properties*** for every single file.

Create AutoCurves Curves

The ***AutoCurves*** button opens the ***Create AutoCurves Curves*** window. There, you can create AutoCurves corrections that you can later apply, under ***Configurations/AutoCurves,*** to both the CMYK and the spot-color channels of your file to be converted.

The application of AutoCurves curves completes the process of preparing data for printing. Shortly before going to press, almost every printing process calls for a tone value correction that is stored in the RIP of the platesetter. This TVI correction primarily serves to ensure compliance with printing standards and to compensate for imponderables in the printing process, these being brought about by a host of printing parameters, not least also by the substrate and the ink. These TVI corrections can now be directly included in the data to be converted. When subsequently setting the data, all that is necessary is linear implementation in the RIP software of the imagesetter.



Under ***Curve Management***, you can create new curves using the ***New*** button, and duplicate or delete existing ones. A new curve can be edited under ***Curve Design***, either by clicking on the shown curve and moving it with the cursor, or by entering values. If you wish to enter percentage values in the ***Input*** and ***Output*** fields make sure to first set an anchor point in the curve. The entred values are based on this anchor point. You can add as many anchor points as you like. With the ***X*** button you can delete the selected anchor point.

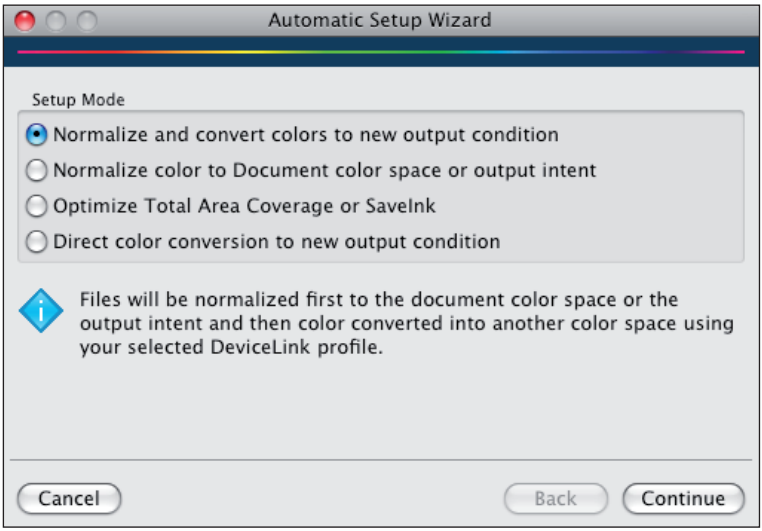
A final important point: Remember to save the edited curve, so that you can later apply it to your data to be converted under ***Configurations/ AutoCurves***. Regarding the application of curves, see also the section AutoCurves curves for the printing process.

Note: The curves you create are stored as one-channel ICC DeviceLink profiles in the Profiles folder of your operating system. The dropdown menu shows not only the curves supplied with InkWIZE for tone value corrections from -20% to +20%, but all Gray-to-Gray DeviceLink profiles contained in the Profiles folder of your operating system. Please note that only the profiles created in InkWIZE can be edited. Other profiles produce a message indicating that the curve cannot be edited.

A additional license is required in order to use the AutoCurves functions.

InkWIZE can convert both image, vector and PDF files in a queue. This chapter discusses how the configuration of Auto Setup queues impacts image files and PDF files. The following sections describe alternative configuration options for InkWIZE. If you want to learn more about handling hot folders created with the ***Auto Setup Wizard*** or in the main ***Define Queues*** window, read the chapter Define Queues.

For almost all cases encountered in practice, Auto Setup queues can be used as automatic functions without encountering any problems. For a number of applications, however, it may be advisable to use other configurations, the possibilities of which are discussed in the chapter InkWIZE configurations in detail.


Automatic Setup Wizard
Setup Mode
Normalize and convert colors to new output condition
Normalize color to Document color space or output intent
Optimize Total Area Coverage or SaveInk
Direct color conversion to new output condition
Files will be normalized first to the document color space or the output intent and then color converted into another color space using your selected DeviceLink profile.
Cancel
Back
Continue

PDF files in Auto Setup queues

The main purpose of Auto Setup queues is to optimize PDF files for standardized offset, newspaper or gravure printing. If you use the Bodoni Systems DeviceLink Profile Sets for this purpose, you can safely circumnavigate the customary problems encountered in connection with the color management of PDF files.

All Bodoni Systems CMYK DeviceLink Profile Sets are optimized in such a way that the colors of both image and vector data can be reliably converted with them. Gradients in vector graphics that consist of just one or two CMYK colors still contain only the original colors after application of the profile. The color values are adjusted in accordance with the purpose of optimisation. The Bodoni Systems DeviceLink profiles have been checked both for smoothness and for visually attractive conversion, and have proven their worth in years of practical use.

Auto Setup queues process image and vector data identically, meaning that is it easily possible to optimize PDF files. If a PDF file contains transparencies, the individual PDF objects are processed in exactly the same way as in a PDF file without transparencies. The transparency information is preserved unchanged.
If PDF objects are in the RGB color space and have the relative colorimetric rendering intent embedded, the Auto Setup queue automatically activates black point compensation to ensure clean reproduction of details in the shadows. Grayscale objects are converted in accordance with the presettings for CMYK objects. If the AutoLink function has been licensed, color conversions of objects with embedded profiles are always performed with AutoLink and using DeviceLink profiles in order to guarantee the best possible quality.
If data containing additional spot colors are present, they are left unchanged in the standard queues.
For normalizing or color conversion, all the color information needed for the PDF/X, including use of the target profile as the output intent, is set automatically in Auto Setup queues. No ICC device profiles are embedded in the individual objects of the output PDF file.

TIFF/JPEG image data in Auto Setup queues

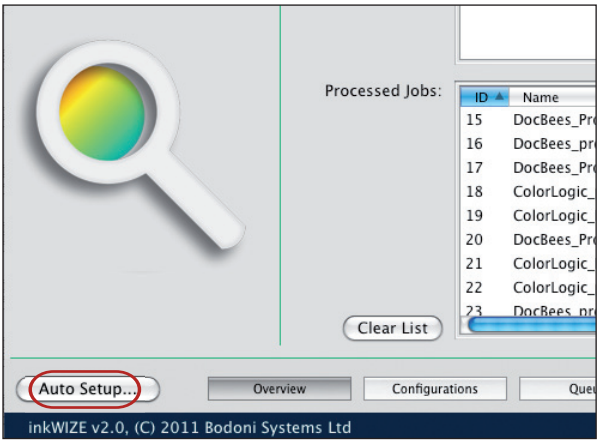
TIFF or JPEG image files in an Auto Setup queue are handled by InkWIZE 2.x in precisely the same way as the corresponding image objects in a PDF file. Please note, however, that there is no document color space for pure image files and that you therefore need to check the settings.

For pure image data conversion of TIFF and JPEG images from a source color space to a target color space, it is advisable to use the ***Auto Setup*** option ***Normalize and convert color to new output condition***. The DeviceLink profile you indicated in the Auto Setup Wizard already configures the source profile of the image if images without embedded profiles are processed. The target profile is likewise set by Auto Setup. The conversion is performed with a detour with the document color space to the target profile, as more consistent results are obtained in this way.
You can also apply the ***Auto Setup*** option ***Direct color conversion to new output condition***. If you use the AutoLink function, either a DeviceLink profile is calculated on-the-fly, or a stored DeviceLink profile is used, depending on the setting under ***AutoLink Setup.*** Under certain circumstances, however, it may be that the DeviceLink profile selected with Auto Setup is not used. If you do not use the AutoLink function, normal ICC conversion is performed. If you want to be certain that a specific DeviceLink profile is applied in this configuration, e.g. for TAC reduction or ink saving, store this profile in the table in the ***AutoLink Setup*** window.

Note: In InkWIZE 2.0 and higher, TIFF files with a 16-bit color depth are no longer reduced to 8 bit, but remain in 16-bit form. It is generally the rule that InkWIZE does not alter the bit depth, type and compression of the input data.

Creating a queue with the Auto Setup Wizard

After starting InkWIZE, you will find the ***Auto Setup...*** button at the bottom left in the main window. The ***Auto Setup Wizard*** allows you to create a queue for optimizing your PDF files with just a few mouse clicks.



Since color conversion can have very different purposes, InkWIZE also has to be configured in different ways. So, you have a choice of four different modes for creating your queue:

- Normalize color to Document color space or output intent
- Normalize and convert color to new output condition
- Optimize Total Area Coverage or SaveInk
- Direct color conversion to new output condition

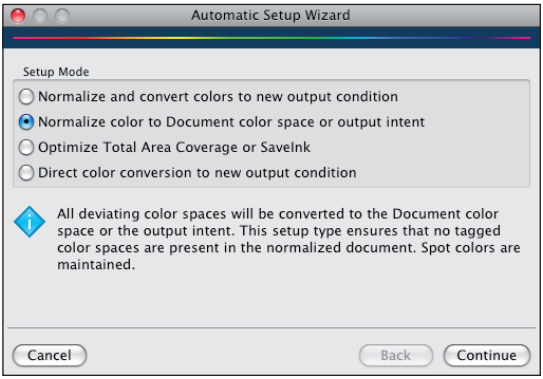
Any professional, high-quality conversion presupposes that the source color space of the objects to be converted is known or can be read out. If no unequivocal document color space (output intent) is assigned to the objects in the PDF file, conversion is performed on the basis of an assumed source, and may therefore dewithte from the originally anticipated result.
The output PDF file resulting from an Auto Setup queue is always a pure device color space file (i.e. either CMYK, RGB, Gray or Multicolor), without embedded profiles in individual objects. If data containing additional spot colors are present, they are left unchanged in the standard queues. All the color information needed for PDF/X, including use of the target profile as the output intent, is set automatically in Auto Setup queues.

Normalize color to Document color space or output intent

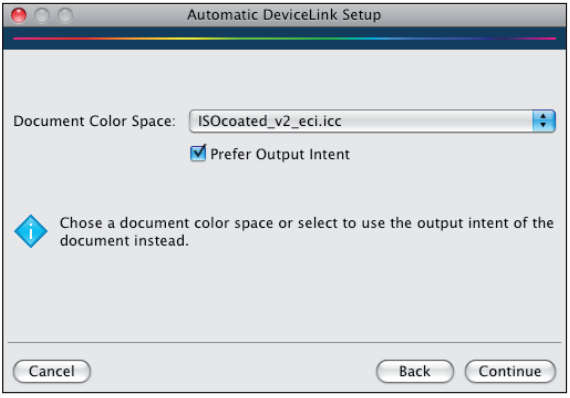
When normalizing, the color spaces of individual PDF objects that do not correspond to the document color space are converted to the document color space (usually CMYK). Your PDF objects that dewithte from the document color space or output intent are converted correctly. After conversion, the final, normalized file consists only of the color space of the output intent and any spot colors that may be present.

If PDF objects are in the RGB color space, the embedded profile converts them to the document color space with the rendering intent defined in the PDF. If a relative colorimetric intent is embedded in PDF RGB objects, the Auto Setup queue automatically activates black point compensation to ensure clean reproduction of details in the shadows.

The following color conversions apply when normalizing:


Automatic Setup Wizard
Setup Mode
Normalize and convert colors to new output condition
Normalize color to Document color space or output intent
Optimize Total Area Coverage or SaveInk
Direct color conversion to new output condition
All deviating color spaces will be converted to the Document color space or the output intent. This setup type ensures that no tagged color spaces are present in the normalized document. Spot colors are maintained.
Cancel
Back
Continue

- Conversion of DeviceRGB and ICCbasedRGB to the document color space (usually CMYK)
- Spot colors are left unchanged. If necessary you may decide to convert spot colors to the target color space
- Conversion of ICCbasedCMYK to the document color space, preserving pure colors and the separation characteristics (when using the AutoLink function)
- Mapping of ICCbasedGray onto the black channel of the document color space



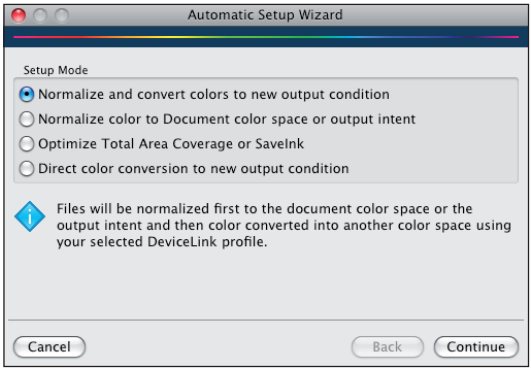
If you perform normalization on a PDF file that contains an output intent, InkWIZE can use it as the document color space. If the PDF file does not contain an output intent, you can specify a color space as the document color space, e.g. ISO Coated V2 for coated paper. The default name of this queue begins with ***Normalize***. You can, of course, change the name at any time in the ***Queues*** dialog.

Normalize and convert color to new output condition

When using this wizard mode, files are first normalized to the document color space, as described above, and their colors are then converted to the required output condition using a DeviceLink profile you have selected.

When creating the queue, the chooser***DeviceLink profile*** shows you which DeviceLink profiles are available in the standard profiles folder of your system and/or in the ***InkWIZE/Demo_Profiles*** folder (in case a demo license is used).

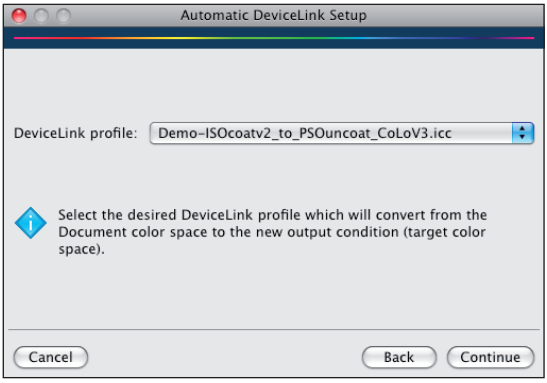
After selecting a DeviceLink profile, the profile name is suggested as the queue name, although you can change it in the ***Queues*** dialog. The default name of this queue begins with ***Convert***.


Automatic Setup Wizard
Setup Mode
Normalize and convert colors to new output condition
Normalize color to Document color space or output intent
Optimize Total Area Coverage or SaveInk
Direct color conversion to new output condition
Files will be normalized first to the document color space or the output intent and then color converted into another color space using your selected DeviceLink profile.
Cancel
Back
Continue

Note: Apart from the new AutoLink function, this setting corresponds to the mode of operation by means of which Auto Setup queues were created in older InkWIZE versions (e.g. version 1.2.7). In this context, see also the chapter Upgrade from InkWIZE 1.2.x to 2.x.

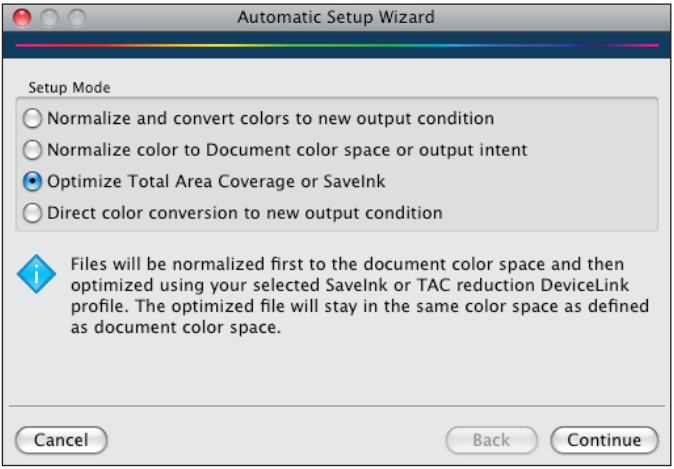
If the AutoLink function is not licensed the Auto Setup Wizard works different ly in order to assure the most safe color production. Without AutoLink CMYK objects with embedded profiles are treated as if they would have no embedded profiles and are directly color converted with the DeviceLink you have selected in the Auto Setup Wizard.

You will find more information in the chapter Ignoring CMYK objects with embedded profiles.

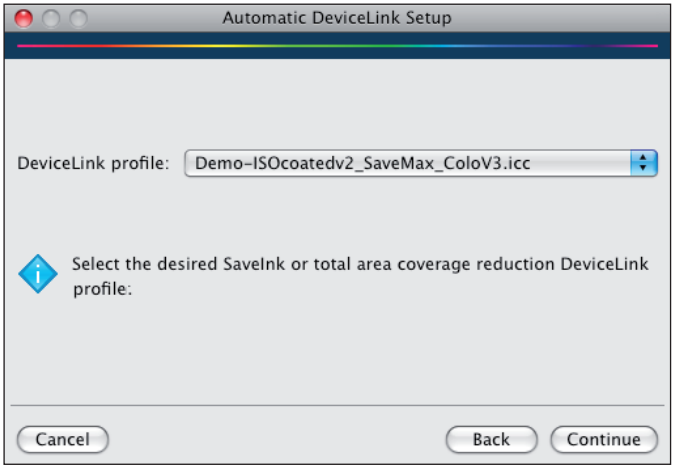

Automatic DeviceLink Setup
DeviceLink profile:
Demo-ISOcoatv2_to_PSOuncoat_CoLoV3.icc
Select the desired DeviceLink profile which will convert from the Document color space to the new output condition (target color space).
Cancel
Back
Continue

Optimize Total Area Coverage or SaveInk

The ***Optimize Total Area Coverage or SaveInk*** wizard mode normalizes your data to the document color space and then optimizes them with a SaveInk or TAC reduction profile specified by you. The source and target profiles are identical, meaning that the optimized file stays in the same color space as the document color space. The focus here is on faithful reproduction of your files, while simultaneously reducing the total area coverage and/or saving ink.

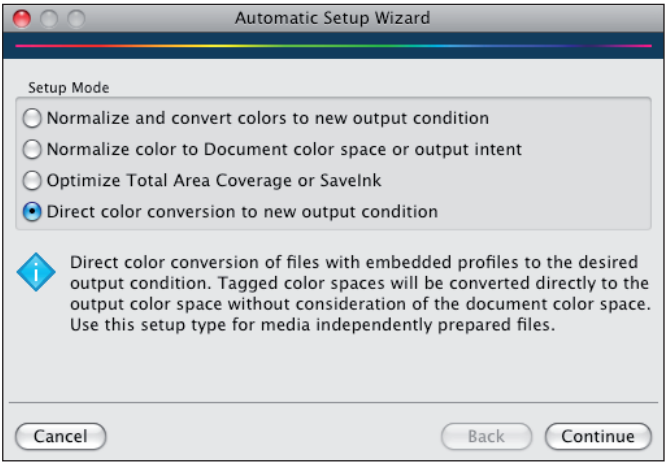

Automatic Setup Wizard
Setup Mode
Normalize and convert colors to new output condition
Normalize color to Document color space or output intent
Optimize Total Area Coverage or SaveInk
Direct color conversion to new output condition
Files will be normalized first to the document color space and then optimized using your selected SaveInk or TAC reduction DeviceLink profile. The optimized file will stay in the same color space as defined as document color space.
Cancel
Back
Continue

The default name of this queue begins with ***SaveInk***. You can subsequently alter the name in the ***Queues*** dialog, if required.

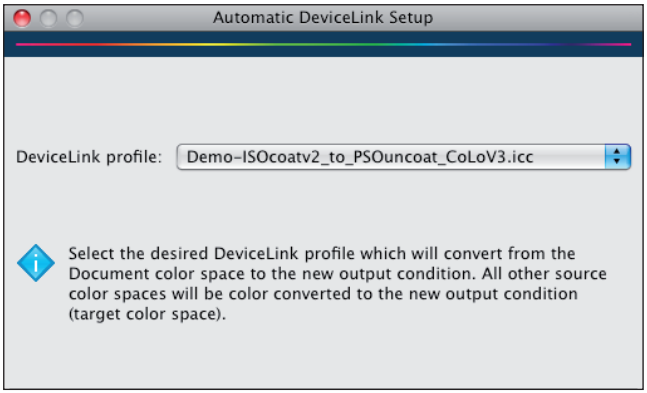


Direct color conversion to new output condition

This queue directly converts the colors of data with embedded profiles to the required output condition (target profile), without first normalizing the data to the document color space. Use this setting mode for data prepared in media-neutral fashion, e.g. with RGB image data. The default name of this queue begins with ***Output***, but you can, of course, rename it at any time in the ***Queues*** dialog.

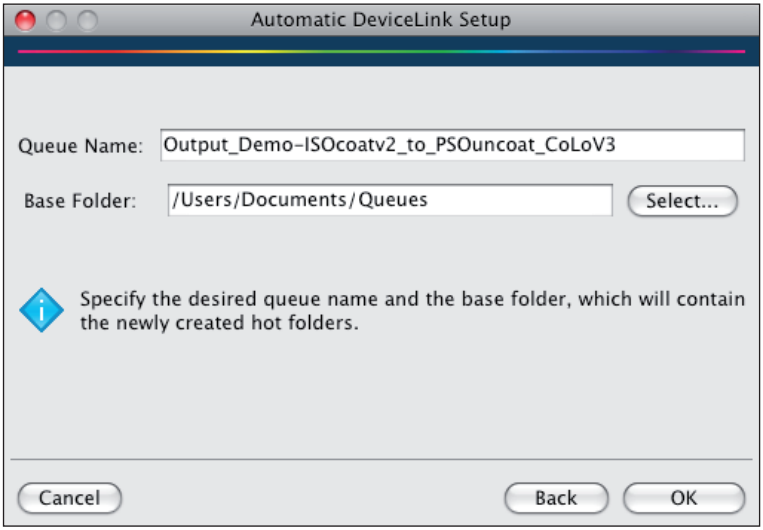

Automatic Setup Wizard
Setup Mode
Normalize and convert colors to new output condition
Normalize color to Document color space or output intent
Optimize Total Area Coverage or SaveInk
Direct color conversion to new output condition
Direct color conversion of files with embedded profiles to the desired output condition. Tagged color spaces will be converted directly to the output color space without consideration of the document color space. Use this setup type for media independently prepared files.
Cancel
Back
Continue

Using this setup mode the maximum utilization of the target color space is possible, because image and vector data differing in color space from the document color space are directly color converted to the target profile. In the second wizard step select a DeviceLink profile which converts from the document color space of your files to the desired new output condition. All options for color conversion of RGB-, CMYK-, Gray- and LAB color spaces will appropriately be set automatically.


Automatic DeviceLink Setup
DeviceLink profile:
Demo-ISOcoatv2_to_PSOuncoat_CoLoV3.icc
Select the desired DeviceLink profile which will convert from the Document color space to the new output condition. All other source color spaces will be color converted to the new output condition (target color space).

Selecting the Base Folder

When you generate a queue with the ***Auto Setup Wizard***, you simultaneously define the name of the queue and the base folder in the third and final step of the wizard. Hot folders are created automatically in the ***Base*** Folder. The hot folder, in turn, contains the ***Input*** and ***Output*** sub-folders. When you send a PDF file to the ***Input*** folder, InkWIZE automatically converts it in accordance with your color management specifications, and puts the converted file into the ***Output*** folder. The original file is moved to the ***Done*** folder. Errored files are placed in the ***Error*** folder. You can use the queues immediately.



In the ***Configurations*** window you can perform color conversions using ICC device profiles or ICC DeviceLink profiles and construct a workflow for mixed files (CMYK, RGB, Gray, spot colors in a single document) in the case of PDF documents, resulting in a great variety of options. To understand them, it is first necessary to go into a little more detail regarding color spaces in PDF files.

Color space definitions in InkWIZE

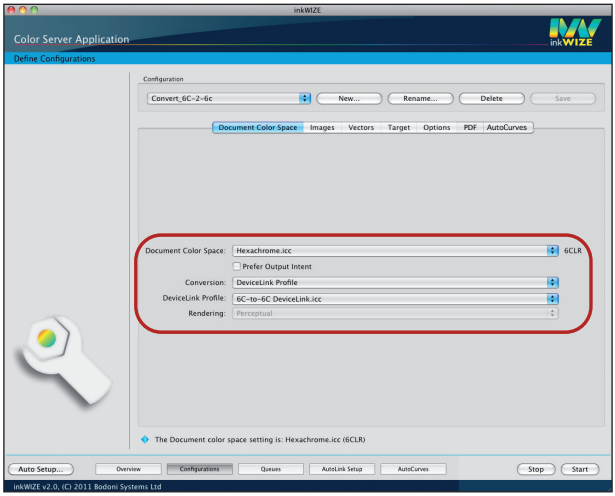
When converting colors in InkWIZE, a distinction is made between the object, document and target color space.

Object color space

Individual objects (images/graphics/text) in a PDF document may have embedded ICC device profiles and defined rendering intents that have to be taken into account. You set the associated color management on the ***Images*** and ***Vectors*** tabs.

Document color space

In addition to the ICC device profiles in the individual objects in the PDF file, the entire PDF document may also be tagged with an output intent (an ICC device profile that describes the document color space). The document color space serves as a reference when it comes to creating a consistent printing color space for the colors of a PDF file. CMYK color spaces are almost always used as the document color spaces in the framework of print production, since printing is usually also done with CMYK inks. However, it is also perfectly possible that an RGB document color space is encountered in modern publications for mobile media. Additional colors are used in packaging printing or HiFi printing, where the document color space can also be represented by a Multicolor profile if PDF/X-5n is used. In the screenshot, a Multicolor profile with 6 color channels is set as the document color space, and a 6-channel DeviceLink profile is used for color conversion. From Version 2.0, InkWIZE supports the full range of color spaces that can be used as the output intent.



If a PDF file contains individual RGB or CMYK objects with embedded profiles, their colors are converted from the object color space to the document color space for soft proofing, output for proofing or printing.
For professional print production, data exchange should be based on the PDF/X standard. The document color space is unequivocally defined as the output intent in PDF/X documents.

Target color space

It may well be the case that the document color space/output intent of a PDF/X file does not match the color space of the ultimate printing process. In this case, the entire PDF file needs to be converted from the document color space to the target color space. DeviceLink profiles are particularly suitable for this purpose. This also applies to the TAC reduction or SaveInk application often used in practice.

Selecting the document color space

When working with InkWIZE, the document color space of a PDF file can be defined in three ways.

1. Selection of an ICC device profile under Document Color Space
Manual selection of an ICC device profile if the PDF file does not have an output intent.

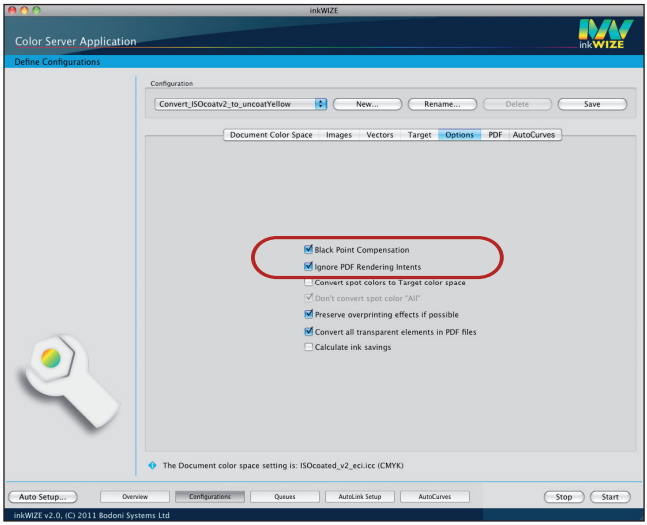
2. Selection of the output intent under Document Color Space
If the ***Prefer Output Intent*** option is activated under ***Document Color Space*** in the InkWIZE configuration, an output intent linked to the PDF file replaces the ICC device profile defined under 1. in the InkWIZE workflow.
Note: For workflow reliability, we recommend that you specify the document color space and not use the ***Prefer Output Intent*** checkbox, in order to avoid unwanted color conversion. This makes it possible, for example, to avoid unwanted color conversion resulting from the output intent in a PDF file accidentally being set incorrectly. The option should only be set in a standard queue for normalizing.

3. Selection of the DeviceLink profile under Document Color Space
A DeviceLink profile represents a tailor-made color conversion from a defined source (e.g. Gray, RGB or CMYK color space) to a target profile. Within the ICC standard, there is the possibility of using the "Profile Sequence Identifier" - PSID Tag for short - in the DeviceLink profile to store information regarding the source and target color spaces for which a DeviceLink profile was calculated. InkWIZE is capable of reading the PSID

Tag, and thus of automatically setting the profiles under ***Document Color Space*** and ***Target***.
Starting from profile version ***CoLoV2***, all Bodoni Systems standard profiles contain the PSID Tag, which makes configuration work much easier. This is also how the output intent is set automatically in Auto Setup queues.

Processing image and vector files

A queue in InkWIZE processes not only images, but also vectors and texts in PDF files. The same settings are used for converting both images and vectors. CMYK, RGB, Grayscale, and Lab files are processed in accordance with the configurations on the ***Images*** and ***Vectors*** tabs. A source profile can be assigned in this context, or embedded profiles can be read out, if present. When using embedded ICC device profiles, the rendering intent specified in InkWIZE is not applied, but the rendering intent embedded in the PDF instead. Since the embedded rendering intent in PDF files can be set to relative colorimetric, be sure to select ***Black Point Compensation*** on the ***Configuration/Options*** tab at the same time. If you want to specify the rendering intent in InkWIZE for some reason (and thus ignore the PDF/X rules), activate the ***Ignore PDF Rendering Intents*** checkbox on the ***Options*** tab.



In addition, the ***AutoLink*** option selectable under ***Images*** and ***Vectors*** offers the possibility of generating a high-quality DeviceLink profile on-the-fly, or of using an existing DeviceLink profile for conversion from the source color space to the target/document color space. You can find further information on the AutoLink option under Define Profile Assignments (AutoLink Setup). Whether the target profile is embedded after conversion has been completed depends on the settings on the ***Target*** and ***PDF*** tabs.

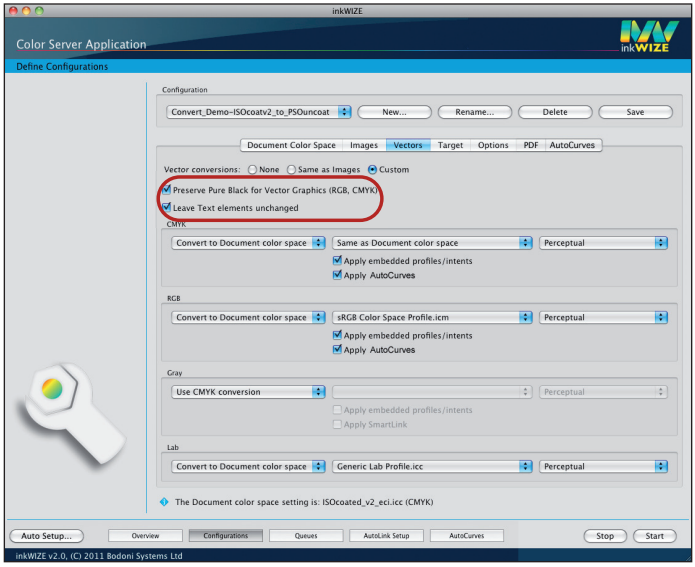
Handling of vector graphics

If PDF files contain flattened transparencies, for example, it is often the case that pixel and vector data of the same color directly abut. Therefore, the basic setting in InkWIZE always converts pixel images and vector graphics in the same way. Color differences between abutting pixels and vector objects of the same color are thus reliably avoided. You will find the ***Vector conversions: Same as Images*** setting under ***Configuration/Vectors*** for this purpose. To obtain high-quality color conversion, you need to use DeviceLink profiles that preserve components composed of one and two colors.

In special cases, where CMYK conversion in InkWIZE is performed by conversion with ICC source and target profiles, it is also possible to completely exclude vector graphics from color management by activating the ***Vector conversions: None*** option.

Needless to say, you can also make independent and individual settings for vectors to the same extent as for images. The dropdown lists and menu entries for configuration are available as soon as you select ***Vector conversions: Custom***.

Text and vector graphics are independent objects within the PDF format. For both kinds of object, the InkWIZE options offer possibilities for preventing black vector graphics or black text from being composed of four colors as a result of ICC conversion. These options are not necessary if you use the Bodoni Systems DeviceLink profiles, because the profiles are calculated in such a way that pure black always remains pure.



If you are dealing with RGB PDF files, e.g. originating from Office programs, ***Preserve Pure Black for Vector Graphics*** converts RGB black to pure CMYK black.

The ***Leave Text elements unchanged*** function on the ***Vectors*** tab clearly indicates that InkWIZE makes a distinction between vectors and text. If you only want to convert vector graphics and leave text unchanged, simply activate this function.

Handling of ICC-based PDF objects

Individual objects (images, vectors) within PDF files may have embedded profiles. This results in a number of different options in the workflow.

Handling of ICC-based RGB objects

In PDF files prepared in media-neutral fashion, the colors of RGB objects are usually converted directly to the target color space. However, if you use DeviceLink profiles to optimize PDF printing data, it may also make sense to first convert such objects to the document color space (i.e. normalize them), and then optimize all the objects in the PDF file by means of a DeviceLink profile. This working method can be preset in the ***Auto Setup Wizard*** by selecting the ***Optimize Total Area Coverage or SaveInk*** option.

An example: The PSO_Uncoated_ISO12647_eci.icc profile has a maximum total area coverage of 300%, whereas all Bodoni Systems DeviceLink profiles with PSOuncoated as the target color space limit the total area coverage to a maximum of 280% to be on the safe side. If you want to be certain that all the objects in the PDF file really do have a total area coverage of no more than 280% for printing on uncoated paper, it makes sense to first convert RGB objects in the PDF file to the ***PSO_Uncoated_ISO12647_eci.icc*** profile selected as ***Document color space***, and then perform conversion with the ***PSOuncoated_TAC280_CoLoV3.icc*** Bodoni Systems DeviceLink profile to reduce the total area coverage.

Handling of ICC-based CMYK objects

The ***Apply AutoLink*** checkbox allows you to select the use of DeviceLink profiles for data conversion. In this context, there are various options regarding how DeviceLink profiles are applied. You can find more details in the chapter Main windows in InkWIZE/Define Profile Assignments.

If a DeviceLink profile is used, the embedded CMYK profile for a PDF object is ignored, for example, the correct DeviceLink profile being directly used for conversion instead.

If the DeviceLink profile was calculated with the option for preserving pure primary and secondary colors, this option ensures that pure colors remain pure in CMYK objects with embedded profiles. If the ***Apply AutoLink*** option is left deactivated, direct ICC-based conversion to the target profile or the document color space is performed. Pure CMYK colors are almost always contaminated in the process leading to problems with overprints.

Handling of gray objects

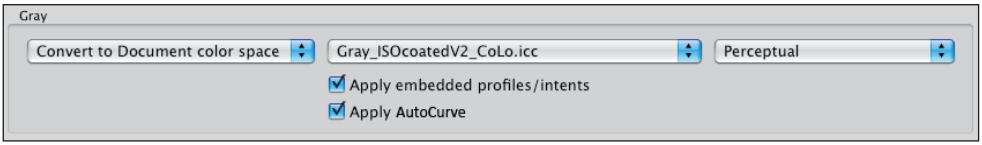
Correct handling of gray objects is of great importance when applying ICC color management. Gray objects are often wrongly excluded from color management, or they are composed of four colors after conversion. Alternatively, InkWIZE offers options for adapting gray objects by color management and leaving them gray in the process, or also for explicit color space conversion to the target profile (RGB or CMYK).

Options where gray is preserved

The ***Use CMYK conversion*** option converts gray objects in accordance with the CMYK settings. This only makes sense if the ***Apply AutoLink*** option has been selected in the CMYK settings, and thus the use of DeviceLink profiles. The DeviceLink profiles created with AutoLink map pure CMYK gray of the source to pure CMYK gray of the target. This is also the case with all Bodoni Systems Standard DeviceLink Profiles. If you select ***Use CMYK conversion***, any device profiles possibly embedded in gray objects are used for DeviceLink conversion, the ICC device profiles being removed from the file at the same time.

If DeviceGray objects in the PDF do not have embedded profiles, you are prompted to select a default profile as soon as you activate the ***Convert to Document color space*** or ***To target color space*** option. At this point, you should select one of the Gray profiles supplied by Bodoni Systems, or a CMYK profile, that corresponds to the document color space. Also activate the ***Apply embedded profiles/intents*** option to give embedded profiles priority over the default profile, and the ***Apply AutoLink*** option. In the event of Gray-to-CMYK conversion, for example, AutoLink ensures that a gray object always remains gray and is not converted into four colors.

Note: While the AutoLink function is a chargeable supplementary option for the CMYK and RGB color spaces, it is free of charge for the Gray color space. Earlier versions of InkWIZE (e.g. version 1.2.7) included the ***Linearize*** option, which has been replaced by the more professional AutoLink function as of InkWIZE 2.0.



Converting Gray to CMYK or RGB

If gray objects are converted directly to the ***Document color space*** or the ***Target profile***, and the AutoLink function is not activated, the gray objects are subsequently composed of four colors in CMYK or three colors in RGB. The latter is the case if you specify an RGB profile under Target profile. Similarly, the purity of gray is not preserved if you fail to use the AutoLink function in the CMYK settings when applying ***Use CMYK conversion***.

Standard rendering intents

Beyond the standard rendering intents, InkWIZE additionally offers its own conversion methods when using ICC device profiles for conversion. This calls for a brief introduction to the structure of ICC device profiles:

If you take a closer look at an ICC device profile using suitable tools, you will see that the rendering intents, such as ***perceptual*** or ***relative colorimetric***, are large tables that, in the case of CMYK profiles, convert either CMYK color values to Lab, or Lab color values to CMYK. Because of these two directions of color conversion, there are two tables for each rendering intent. These tables are calculated from the colorimetric data when generating a color profile. If different profiling software is used to calculate ICC device profiles from the same colorimetric data, the tables generated in the process differ substantially in some color areas.

This particularly applies to the two tables of the perceptual intent, the gray balance, and also the areas of very high color saturation in the two tables of the relative colorimetric intent - also known as "out-of-gamut" colors.

To obtain optimum, harmonious color conversion, it is advisable to ensure that the source profile and the target profile were calculated using the same profiling software, particularly where CMYK-to-CMYK conversion is involved. In practice, however, it is often the case that profiles from different providers are used, e.g. from Adobe or the ECI, and this can lead to problems during color conversion with the perceptual rendering intent.

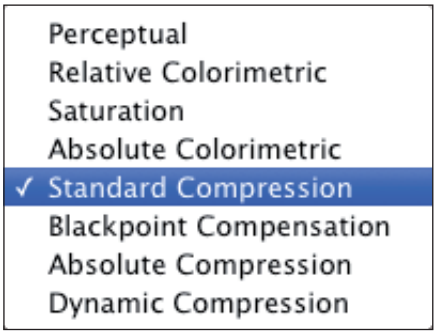
Extended InkWIZE rendering intents

The extended rendering intents of InkWIZE avoid inharmonious color conversions that can result if the tables for the source and target profiles are calculated differently. To achieve harmonious color conversion, InkWIZE completely recalculates the source and target profile tables on-the-fly.

The extended rendering intents are only available with an actvivated AutoLink licence. In case of a deacticated ***Apply SmarktLink*** checkbox or if AutoLink has not been licensed, only the four standard rendering intents are available.

Using AutoLink, in total four additional rendering intents are available for an alternative perceptual rendering:

Standard Compression calculates a perceptual rendering for the input and target profiles that is highly suitable for all kinds of gamuts in input and target profiles. In this context, the gray axis of the conversion is always relative to the paper white of the target profile. If CMYK data are converted to a very yellowish paper, the gray balance of the converted file is also yellowish. If you convert the same gray axis to a bluish paper, it will appear bluish. Standard Compression takes different gamut sizes into account. In the case of very small gamuts, e.g. in newspaper printing, the shadows are lightened slightly in order to get more definition in these areas.



Black Point Compensation largely corresponds to the "relative colorimetric with black point compensation" option in Adobe applications, with additionally improved rendering of out-of-gamut colors. This version is very suitable if the gamut and contrast range of the input and the target are not too different, e.g. when converting printing data for offset printing on coated paper to web offset printing. As with ***Standard Compression***, the gray axis of the conversion is relative to the paper white of the target profile. Instead of cutting off out-of-gamut colors, as happens with Adobe black point compensation, Bodoni Systems Black Point Compensation applies out-of-gamut mapping, which leads to better definition in highly saturated colors and hue-accurate color reproduction.

Note: The shadows are not lightened by Bodoni Systems Black Point Compensation, meaning that it is not optimally suited to small gamuts. Should there be a major difference in contrast and gamut between the input and target profiles, it is better to use Standard or Dynamic Compression.

Absolute Compression is best suited to data where the gamut and contrast range of the input and the target are fairly similar, but the paper color differs substantially. In contrast to ***Standard Compression*** and ***Black Point Compensation***, the paper color is compensated for in the gray balance. In this way, it can be ensured that the color appearance of the original file is optimally preserved on a target medium with a different paper color. Again, this method lightens the shadows if the gamut is small.

Note: Select ***Absolute Compression*** if the paper white of the input and target color spaces is significantly different, but you want to get the same color impression in both printing processes. After conversion using ***Absolute Compression***, the gray axis of the source color space will look largely identical on a yellowish and a bluish paper, for example.

Dynamic Compression compares the input color space with the target color space and creates a compression for minimizing out-of-gamut areas. In this context, the brightness, and thus the definition, of the original color space is preserved, as is the highest possible saturation. As with ***Standard Compression***, the gray axis of the conversion is relative to the paper white of the target profile. Use ***Dynamic Compression*** if the input and target profiles have a very large dynamic and contrast range.

Note: In order that the set rendering intent of PDF files is taken into account and used when creating a DeviceLink profile on-the-fly with AutoLink, the option ***Ignore PDF Rendering Intents*** should be selected.

Use of Multicolor profiles

It has been possible since InkWIZE v1.2 to work either with Multicolor printer profiles or with DeviceLink profiles that permit RGB-to-Multicolor or CMYK-to-Multicolor color conversion. Starting with InkWIZE Version 2.0, you can also choose a Multicolor-to-Multicolor DeviceLink profile.

Use of Multicolor profiles in the PDF workflow

A special feature of InkWIZE is the possibility of using Multicolor profiles both as the document color space and as the target profile, and of using Multicolor DeviceLink profiles for color conversion. Particularly in prepress work for packaging printing, this is an important option when image data are present in the form of an RGB or CMYK file. RGB and CMYK image files can be positioned directly in the finished document from which a PDF file is created, so that InkWIZE can then be used to convert the complete document to the required Multicolor color composition for printing. Another interesting field of application is, for example, the printing of photo books by so-called HiFi color printing processes using 6 or 7 inks.

An additional license is necessary if you want to use the Multicolor functions.

When preparing the data in InkWIZE, you get what is known as a DeviceN PDF file, where every single channel is named like the channel name of the Multicolor target profile. DeviceN has for many years been the standard color definition in PDF for describing spot colors for print production. It thus offers a high degree of compatibility with the proven spot color processing functions of common application programs. The PDF files generated can usually be assessed in the ***Separation Preview*** of the current version of Adobe Acrobat Professional, and processed with current PDF workflow systems. Positioning of the PDF files in, and export from, current Adobe InDesign documents also present no problems. InkWIZE supports the PDF/X-5n standard, which enables the embedding of Multicolor profiles in PDF files for the first time.

In the case of a configuration created with the Auto Setup Wizard (selection of a Multicolor DeviceLink profile), the default setting is such that the Multicolor target profile is not embedded for image data, but that it is embedded as the output intent in PDF files. In the case of a converted PDF/X file (e.g. a PDF/X-4, X-3 or X-1a file), the color-converted file is changed into a PDF/X-5n file.

Before using your Multicolor printer profile – which you select as the ***Target Color Space*** on the ***Target*** tab, or on the ***Document Color Space*** tab in the case of a Multicolor DeviceLink profile – check whether the channel names and Lab color definitions have been entered in accordance with your specifications. If the ***Embed into output file*** checkbox is activated, InkWIZE uses the channel names and color definitions from the Multicolor printer profile set as the target color space when creating the color-converted PDF file. Otherwise, the channel names and color definitions are adopted from the Multicolor DeviceLink profile. So, make sure you have identical channel names and Lab color definitions in the target profile and the DeviceLink profile. There are freeware applications available that can rename the colorants in accordance with your specifications, and also enter the Lab color definitions, in every Multicolor printer profile and DeviceLink profile.

Depending on the Multicolor profile used, the channel designations contained, and the subsequent workflow outside InkWIZE, we recommend that you test the complete workflow beforehand to make sure that everything runs smoothly.

Converting images with Multicolor profiles

If pure image data are to be converted, please note that InkWIZE supports only TIFF files when using Multicolor profiles for conversion. Converted TIFF files are saved as CMYK + Alpha channels. This means that you must expect incorrect TIFF files if you want to convert TIFF files using Multicolor profiles whose channel designations or colors do not correspond to CMYK.
Similarly, there is no technical possibility (as at November 2010) for embedding Multicolor profiles in TIFF files. So, when converting TIFF data, you should deactivate the embedding of profiles on the ***Target*** tab.
Our recommendation: Image data to be converted to Multicolor should be saved as PDF files from Photoshop and then processed using InkWIZE. You can, of course, also use InkWIZE to convert image files in PDF format by means of a Multicolor target profile, and position them in Adobe InDesign.
At the time this InkWIZE Manual went to press, it was not possible to import Multicolor PDF files to Adobe Photoshop, since the PDF import function in Photoshop does not recognize spot-color channels.

Creating your own DeviceLink profiles

There are tasks for which no standard profiles can be provided, e.g. for converting ISO Coated v2 data to the in-house standard of a digital printing machine. Which means that if you need a DeviceLink profile which is not covered from the extensive list of Bodoni Systemss DeviceLinkSets you need to create such a profile with an appropriate DeviceLink creation software. In many other situations InkWIZE can use ***AutoLink*** to calculate DeviceLink profiles from ICC device profiles on-the-fly, and thus there is no longer necessarily a need to use additional programs that generate DeviceLink profiles for such applications. You merely have to make sure that both of the ICC device profiles you want to combine with ***AutoLink*** are available, and that InkWIZE has been correctly configured for ***AutoLink*** application. You can find more information in the chapter Define Profile Assignments (AutoLink Setup).

Please remember that the ICC DeviceLink profile selected in the Auto Setup Wizard or the Document Color Space tab which defines the main color conversion must already be available and that this profile will not be calculated from AutoLink. Likewise you need a DeviceLink profiling application if you have an even higher quality expectation bejond the simple, but high-quality DeviceLink profile created with AutoLink, or if you want to include TAC reduction, SaveInk, or manual editing into your profile or if you want to use Multicolor DeviceLink profiles.

If you do not yet have an ICC device profile for your input or output devices, you need a color management program that writes you a corresponding ICC device profile.
Bodoni Systems offers a number of profiling software solutions that create ICC device profiles, DeviceLink profiles and also MultiColour profiles. Please call us to discuss your requirements

Applying your own DeviceLink profiles

InkWIZE can process all ICC-based DeviceLink profiles. Make sure the software you use for calculating the DeviceLink profile for high-quality CMYK-to-CMYK color conversion has functions for preserving separations, limiting the total amount of color and preserving the purity of primary and secondary colors.
It is also helpful if the software used for color space compression (gamut mapping) can calculate individually from the source profile to the target profile.
Should your DeviceLink profiles not have the PSID Tag, InkWIZE will not recognize the source and target color spaces. When using this kind of profile with the Auto Setup Wizard, a warning is displayed after creating the configuration. You then have to manually set the corresponding profiles in the ***Document Color Space*** and ***Target*** setup dialogs.

Black Point Compensation

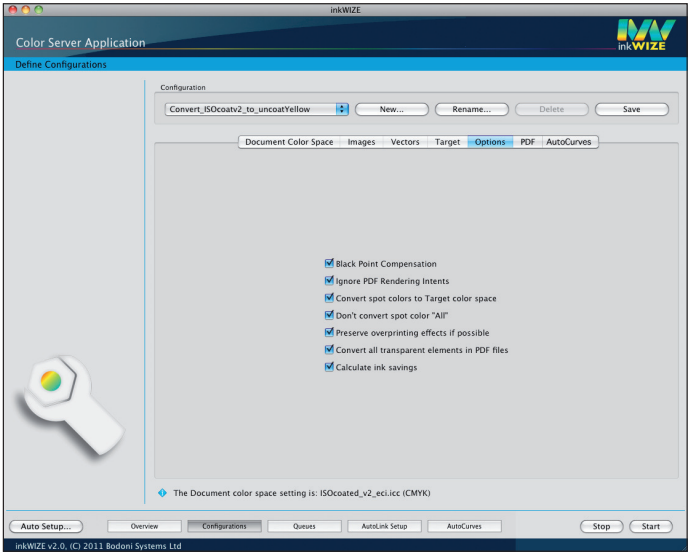
If ***Apply embedded profiles/intents*** is activated in InkWIZE for CMYK, RGB or Gray image or vector data, not only the ICC device profile is read out, but also the embedded rendering intent in PDF files. The rendering intents selected under ***Images*** and ***Vectors*** are ignored in this case. To make sure that high-quality color conversion without gamut clipping is performed when using the embedded rendering intent, which is mostly set to relative colorimetric in PDF files, you should always activate ***Black Point Compensation*** under ***Configurations/Options***.

Note: If a PDF preflighting program does NOT offer the option of converting RGB to CMYK with black point compensation, or of using DeviceLink profiles, you should always leave conversion to InkWIZE for quality reasons.

Ignore PDF Rendering Intents

If ***Apply embedded profiles/intents*** is activated in InkWIZE for CMYK, RGB or Gray image or vector data, not only the ICC device profile is read out, including for PDF objects, but also the embedded rendering intent, as the name of the option suggests. The rendering intents selected under ***Images*** and ***Vectors*** are ignored in this case.

Selecting ***Configurations /Options - Ignore PDF Rendering Intents*** prevents the rendering intent of the PDF file from being read out, meaning that the rendering intent settings made under ***Images*** and ***Vectors*** again have priority. Please note this is no longer compliant with the PDF/X rules.



Convert spot colors to target color space

If you activate ***Convert spot colors to target color space*** under ***Configurations/Options***, spot-color objects are converted into CMYK objects, for example, if the target profile is a CMYK profile. You should use the ***Convert spot colors to target color space*** option if spot colors are not wanted in the final print job. The details of what then happens are largely

dependent on what is known as the Alternate ColorSpace of the spot-color object. The Alternate ColorSpace is a substitute color space for spot-color objects that is stored in the PDF file and can exist in the form of CMYK, RGB or Lab color definitions. Depending on the color space of the Alternate ColorSpace, colors are processed with the CMYK, RGB or Lab settings made under ***Images*** and ***Vectors*** in InkWIZE.
If the ***Convert spot colors to target color space*** option is not activated, all spot-color objects remain unchanged. If necessary, the AutoCurves function can be used to make additional tone value corrections to spot-color gradients.

Don‘t convert spot color „All“
Registration marks and other black printer‘s marks are mostly defined with a spot color “All”. In order to avoid color conversion of this specific spot color in case the option ***Convert spot colors to target color space*** is activated, the checkbox for ***Don‘t convert spot color „All“*** is enabled by default.

Preserve overprinting effects
The ***Preserve overprinting effects*** checkbox allows you to automatically adjust overprinting properties. Some overprinting effects may be lost when changing the color space, e.g. in the case of CMYK-to-N Channel or ICC-based CMYK conversions. This option ensures correct conversion of colors (particularly vector colors) to the greatest possible extent. The ***Preserve overprinting effects*** option is activated as standard for this reason.

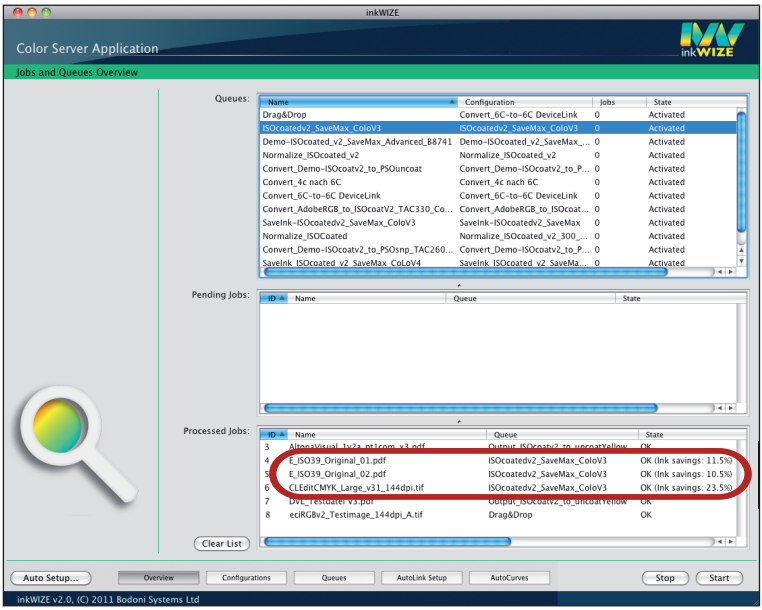
Convert all transparent elements in PDF files
Transparent objects in PDF files have not only the actual transparency effect, but also a color space and color values. As standard, InkWIZE converts all transparent objects in just the same way as all other color objects. However, this can lead to visual errors in the case of some transparency effects. In such instances, you should repeat color conversion after deactivating the checkbox. If the checkbox is deactivated, the color of transparencies continues to be converted correctly, but individual effects having no color relevance are excluded.

Note: Overprinting and transparency settings in PDF files occasionally lead to a color shift or change during color conversion (particularly when not using DeviceLink profiles) that cannot always be prevented. Additional flattening of the PDF file in another application is sometimes unavoidable. On this subject, see also the section Conversion of PDF files with transparencies.

Calculate ink savings

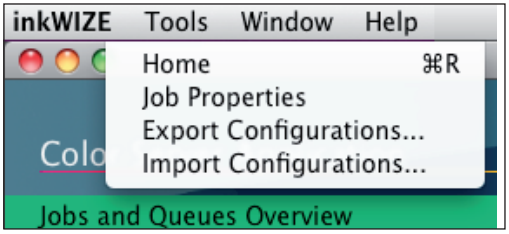
The ***Calculate ink savings*** option calculates the overall amount of CMYK ink saved when applying SaveInk profiles. The savings in percent are indicated in the table of the ***Processed Jobs*** in the ***Overview*** dialog (see screen shot below) and in the ***Job Properties*** window (see also Special workflow options/Job properties).

The ink savings are displayed separately for each calculated file. To open the ***Job Properties***, click on the individual files with the right mouse button in the main ***Overview/Processed Jobs*** window, and select ***Job Properties***.



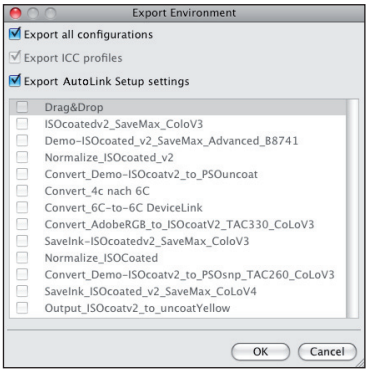
Note: The PDF file would normally have to be flattened to calculate the ink savings, but because InkWIZE has no integrated RIP, we use a trick here. However, this trick, and also any flattening, take additional computer time, thus slowing down color conversion with InkWIZE. Consequently, you should only activate the option for SaveInk applications where you want to know the ink savings for every file. In SaveInk and TAC reduction queues generated with the Auto Setup Wizard the option to calculate the ink savings is automatically enabled. If you want to speed up the color conversion process you should disable this option.

An important option in InkWIZE is that of importing and exporting configurations. The primary aim of this function is to save complete configurations, including or excluding ICC profiles, as an environment backup. Should your system ever decide to go on strike, or should you need to transfer your configurations to a different computer for support reasons, this function ensures that you can quickly and easily import your presettings to the new environment.
Configurations can also be easily exchanged and adapted between different locations in this way. And as a service provider, you have the opportunity to offer complete InkWIZE configurations that your customer then only needs to import.



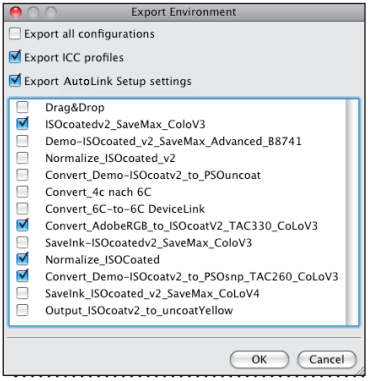
You can find the corresponding import and export options under ***Tools*** in the InkWIZE menu bar.

To export your configurations/profiles, go to the ***Tools*** menu and select ***Export Configurations...*** to open the ***Export Environment*** window.



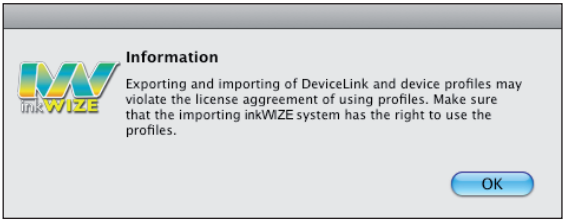
You have three export options:

- ***Export all configurations*** – All the ICC profiles and configurations of all queues are exported. If you wish to ***Export AutoLink Setup settings*** the additional checkbox should be enabled, too.
- ***Export individual configurations*** – To do this, disable ***Export all configurations*** and select the required configurations from the list of configurations displayed. In this way, only selected configurations and their settings are exported. If you additionally activate the ***Export ICC profiles*** checkbox, all the ICC device profiles and DeviceLink profiles used in the selected configurations are included in the export.If you wish to ***Export AutoLink Setup settings*** the additional checkbox should be enabled, too.
- ***Export AutoLink Setup settings*** will export all the settings, including the table of profiles you have established in the AutoLink Setup dialog. Please keep in mind that the profiles created from AutoLink on the fly will not be exported as these profiles are only valid on one computer.

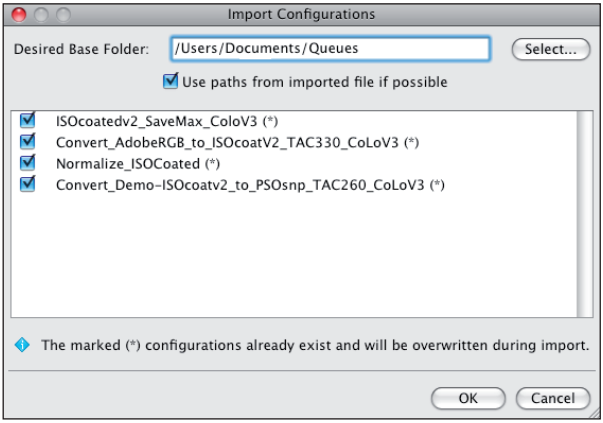


When clicking the ***OK*** button in the ***Export Environment*** dialog a ***Save as*** dialog appears. After entering a file name a ****.CCF*** file will be created containing your settings, configurations and optionally your ICC profiles.

Afterwards an ***Information*** dialog appears informing you about the license provisions when exporting and importing ICC printer and DeviceLink profiles. For any additional InkWIZE system using Bodoni Systems profiles, be it individual or DLS profiles, these profiles must be purchased.


Information
Exporting and importing of DeviceLink and device profiles may violate the license aggreement of using profiles. Make sure that the importing inkWIZE system has the right to use the profiles.
OK

Configurations/profiles are imported with the ***Tools/Import Configurations...*** menu command. Select the previously exported file, or the file provided to you for importing. After selecting the ***CCF*** file the ***Import Configurations*** dialog pops up listing all the configurations saved in the file:

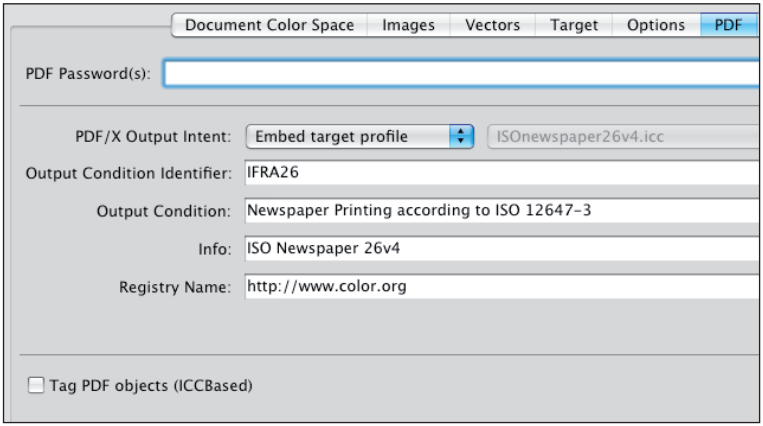


As with the Auto Setup Wizard select the ***Desired Base Folder*** which will contain the hot folder structure for the imported configurations. Alternatively you may enable the checkbox ***Use paths from imported file if possible*** in order for InkWIZE to retain the hot folder paths from each imported configuration. However this will only be possible if the paths for the drives are available on the importing system, too. Other wise the hot folders will be set up in the desired base folder. Configurations having the same name as those already existing in the importing system are marked with ***(*)***. This will give you the option to disable the checkbox for those configurations if desired. Other wise your existing configuration will be overwritten with the importing one. After selecting the checkboxes in front of the configuration names and clicking ***OK*** the configurations/profiles are immediately at your disposal for use in InkWIZE. Imported configurations will be put on hold first and can be started in the ***Overview*** dialog.

The ***Configurations/PDF*** tab includes an option for including PDF/X-specific information with optimized or color-converted PDF files. This makes sense if InkWIZE is used for generating printing data. The PDF/X entries tell the printshop receiving the PDF/X data which printing standard the PDF/X files supplied were optimized for.

InkWIZE supports the following PDF/X standards:

- PDF/X-1a
- PDF/X-3
- PDF/X-4
- PDF/X-5n



The following PDF/X entries are important:

PDF/X Output Intent

The Output Intent is a color profile describing the printing color space for which the PDF file was created. The ***Embed target profile*** option automatically embeds the target profile of the configuration as the Output Intent. Alternatively, a different profile can also be defined manually. The Output Intent of a configuration can be set by means of four options:

- The target profile is embedded as the Output Intent as standard
- You can embed a profile other than the target profile, specifying it in a dropdown menu
- You can remove the Output Intent by means of the ***No Output Intent*** option
- You can preserve the entry as it exists in the PDF file (***Don‘t change*** option)

Output Condition Identifier

The identifier stands for the colorimetric data on which the color profile of the Output Intent is based. This information is important because, for example, different suppliers offer profiles with occasionally very different names for the FOGRA39/ISO Coated v2 or FOGRA47/PSO Uncoated ISO12647 printing standards. If a printer receives PDF/X data from users who work with different profiles, he can use the Output Condition Identifier (the registered name) to see whether the profile in question is a profile for an industry standard or a highly specific, custom profile.

Output Condition

Plain-language description of the printing standard for which the PDF/X data were optimized.

Info

You can additionally make customer, job, printing process or file-specific entries under ***Info***.

Registry Name

At www.color.org, the ICC keeps an unfortunately rather neglected registry for colorimetric data/Output Conditions representing international printing standards. If a printer works with numerous different suppliers, it makes sense to agree on an Output Condition Identifier registered with the ICC.

Automatic control of the PDF/X information

If you use the Bodoni Systems DeviceLink Profile Sets with the endings ***CoLoV3/V4***, they contain information that is automatically entered in the corresponding fields for PDF/X information in InkWIZE. In this case, no manual entries in the PDF/X information are necessary when creating queues with the ***Auto Setup Wizard*** and using Bodoni Systems DeviceLink profiles. Similarly, no manual entries are necessary if you work with a target profile that InkWIZE 2.x recognizes as a standard output profile.

Note: If you create your own DeviceLink profiles, freeware is available to very easily make the entries needed for automatic adoption of the PDF/X information in InkWIZE.

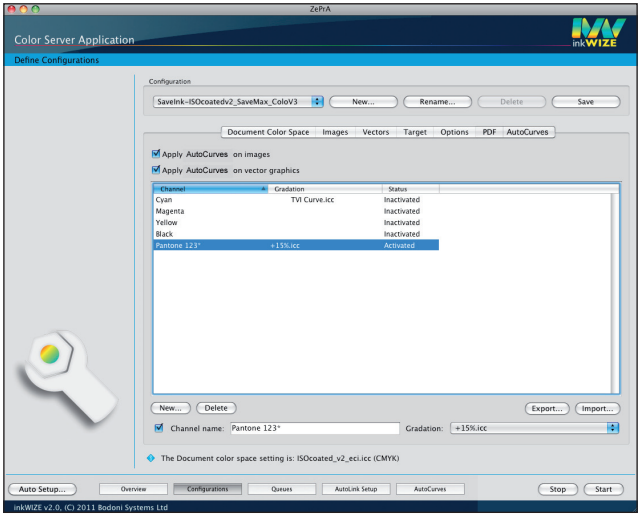
Importing PDF/X information

If you use the ***Import*** button to load a PDF/X file, InkWIZE extracts the PDF/X information. There is then no longer any need to enter the information manually.

From the main ***Configurations*** window, you can get to the ***AutoCurves***, where you can adjust the curves of the color channels of the file you want to convert, including spot colors.

At the top edge of the window, there are checkboxes that allow you to specify whether AutoCurves are to be applied only to image data, or also to vector data. The basic colors C, M, Y, K appear as fixed quantities at the top of the list and cannot be deleted or renamed. You can make further entries for adjusting the curves of spot colors at the bottom edge of the window by activating the checkbox, entering the channel name, and selecting the required AutoCurves correction.

To be able to apply AutoCurves to spot-color channels, click on ***New...*** and enter the exact name of the spot color. The name of the spot-color channel must match the name used for the spot color in the file. Since it may well be that the spot color names in the file have different naming conventions, you can work with wildcard characters when entering the channel name. For example, to process a spot color Pantone 123C or Pantone 123CVC with the same curve, you can use the ***(?)*** wildcard to replace exactly one number/letter combination behind the wildcard, or ***(*)*** to replace all combinations. For instance, the channel name ***Pantone 123**** allows you to apply the set curve both to a spot color called Pantone 123C and to one called Pantone 123CVC.



You can create your own curves for AutoCurves correction with the main ***AutoCurves*** window. Also at your disposal are predefined curves with a mean tone value increase of -20% to +20% in 5% increments, and all Gray ICC DeviceLinks present on your system. The Gray-to-Gray DeviceLinks permit very accurate mapping of a tone value correction curve.

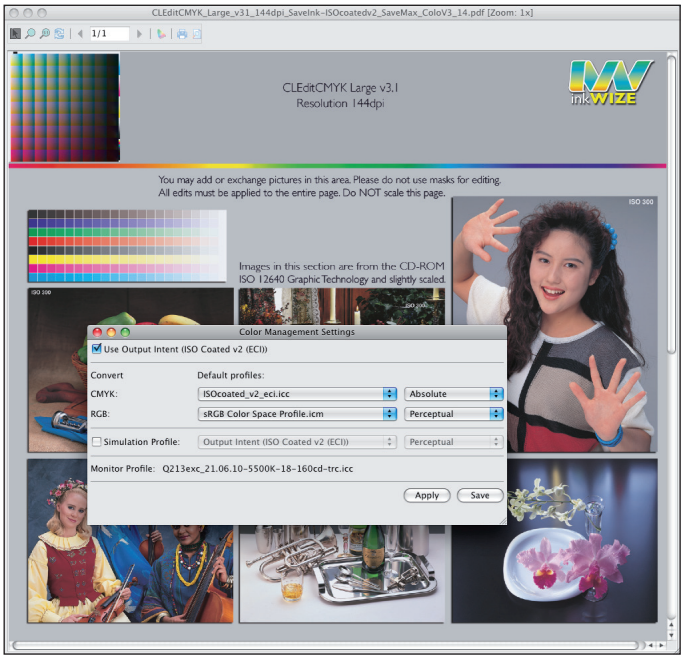
Note: If you have set spot colors and AutoCurves corrections in one configuration, and want to apply them to a different configuration, the ***Export*** button enables you to export all the channel names and settings of a configuration. The ***Import*** button can be used to adopt exported settings in a different configuration. Identical channel names are overwritten when importing.

Softproofing of PDF, TIFF and JPEG files

A double-click on a job in ***Pending Jobs*** or ***Processed Jobs*** in the ***Overview*** window opens a screen preview (softproof). The color space of the softproof is governed by the color settings to be defined by the user. You can open the color settings with the colored icon in the title bar. Embedded profiles or output intents in image/vector data or PDF files are taken into account.

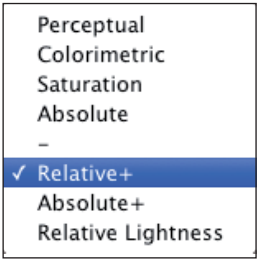
The rendering intents include not only the normal ICC intents, but also three special Bodoni Systems intents:

Relative+ and ***Absolute+*** only have an impact if the black point information contained in a matrix-type Monitor Profile indicates that the black point is lighter than L* = 0. The softproof becomes a little darker as a result of this, especially in the shadows. This usually leads to a visually better match with a reference proof.



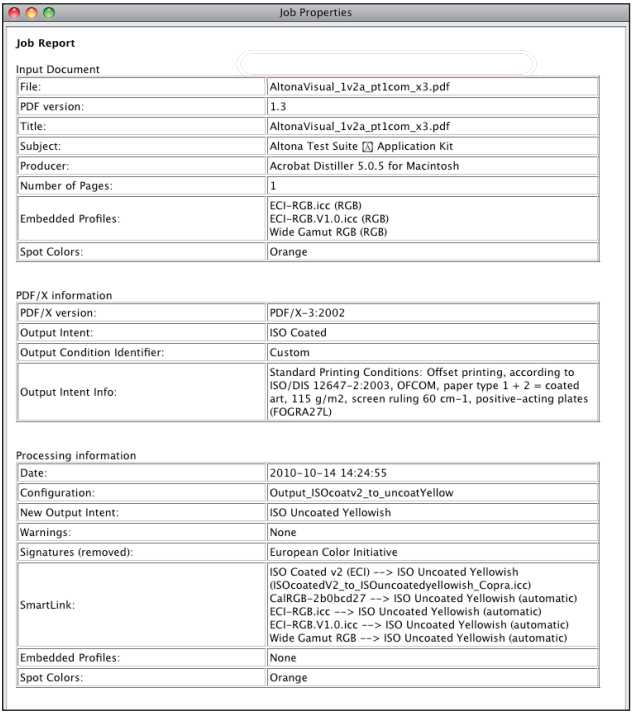
Relative Lightness is based on the absolute colorimetric intent with paper color simulation. The lightness of the paper color simulation is scaled to the maximum displayable lightness of the monitor, the color of the paper color simulation and the gray balance of the softproof as a whole being preserved. This setting makes sense if the absolute colorimetric softproof is visually too dark, as is often the case in newspaper printing, for example.

In order to select the right softproof intent, it is generally advisable to use not only the monitor, but also a dimmable standardized light box with a reference proof for visual comparison.



Job Properties

If you have clicked on a job in the ***Overview*** window, you can call up more detailed information on the job properties with the menu under ***Tools*** or with the context-sensitive menu (right mouse click on a file in the ***Processed Jobs*** list and then select ***Show Job Properties***).



Job Properties

Job Report

Input Document

File:	AltonaVisual_1v2a_pt1com_x3.pdf
PDF version:	1.3
Title:	AltonaVisual_1v2a_pt1com_x3.pdf
Subject:	Altona Test Suite Application Kit
Producer:	Acrobat Distiller 5.0.5 for Macintosh
Number of Pages:	1
Embedded Profiles:	ECI-RGB.icc (RGB) ECI-RGB.V1.0.icc (RGB) Wide Gamut RGB (RGB)
Spot Colors:	Orange

PDF/X information

PDF/X version:	PDF/X-3:2002
Output Intent:	ISO Coated
Output Condition Identifier:	Custom
Output Intent Info:	Standard Printing Conditions: Offset printing, according to ISO/DIS 12647-2:2003, OFCOM, paper type 1 + 2 = coated art, 115 g/m2, screen ruling 60 cm-1, positive-acting plates (FOGRA27L)

Processing information

Date:	2010-10-14 14:24:55
Configuration:	Output_ISOcoatv2_to_uncoatYellow
New Output Intent:	ISO Uncoated Yellowish
Warnings:	None
Signatures (removed):	European Color Initiative
SmartLink:	ISO Coated v2 (ECI) --> ISO Uncoated Yellowish (ISOcoatedV2_to_ISOuncoatedyellowish_Copra.icc) CalRGB-2b0bcd27 --> ISO Uncoated Yellowish (automatic) ECI-RGB.icc --> ISO Uncoated Yellowish (automatic) ECI-RGB.V1.0.icc --> ISO Uncoated Yellowish (automatic) Wide Gamut RGB --> ISO Uncoated Yellowish (automatic)
Embedded Profiles:	None
Spot Colors:	Orange

As within a basic preflight application you will get various important information. In the ***Document information*** section you get base information about the file itself, including embedded profiles or spot colors in your original document. You are shown the PDF version of the file and the program used to generate it. The section ***PDF/X information*** is only populated if the document is a PDF/X file. You are shown the PDF/X version and related information about the output intent. The section ***Processing information*** is particular important to obtain information about the date and time of the conversion with InkWIZE, the configuration used, the new output intent embedded in the file and if embedded profiles and spot colors are still in the file.

Helpfull for evaluation is the section about the DeviceLink profiles used dynamically from ***AutoLink***. You will see the color spaces for which a DeviceLink profile has been either calculated on the fly (if ***automatic*** is mentioned in brackets) or a used defined profile in the ***AutoLink Setup*** dialog has been used.

On the rare occasions when an error occurs during conversion in InkWIZE, you will find corresponding information under ***Warnings***. The ***Processing information*** section also shows the ink savings in percent if you activated the ***Calculate ink savings*** checkbox under ***Configurations/Options*** prior to conversion.

You can save the job properties to disk by using the context menu entry ***Save Job Properties***.

The following points relating to color should be checked by PDF preflighting:

Number and type of color channels in the PDF file

Depending on the print job, additional spot colors are either necessary or superfluous. In this respect, the task of preflighting is to determine whether the number and naming of the color channels match the print job. If the PDF preflight indicates unwanted spot colors, you can remedy the problem in the preflighting program before sending the data to InkWIZE. Alternatively, you can duplicate an Auto Setup queue and use it to automatically convert all spot colors to CMYK (see Page 54). After processing the job in InkWIZE, you can inspect the spot colors occurring in the PDF file by opening the ***Job Report*** for the processed file with the ***Job Properties*** menu item. This is particularly useful if you do not use an additional preflighting program.

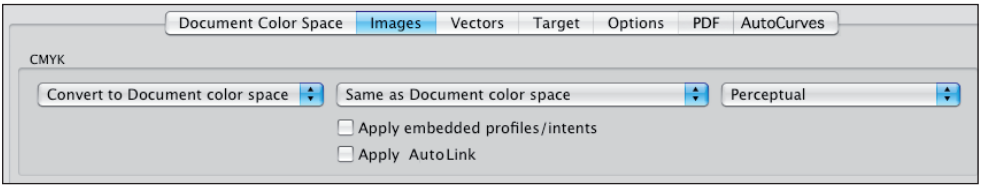
Check for RGB and/or CMYK objects with embedded profiles

For fully automatic workflows in printshops without additional approval by the customer, we recommend that you only accept pure CMYK PDF files from the customer that are tagged with correctly embedded profiles. If the files are not pure CMYK PDF files, we advise you to optimize the data by means of InkWIZE, and then send them to the customer, at least in a CMYK LowRes version, for renewed approval. Please note that the standard queues in InkWIZE created with the Auto Setup Wizard optimize all CMYK objects in a PDF file with the DeviceLink profile (if AutoLink is activated), and give consideration to any embedded profiles during conversion. Alternatively, you can duplicate a standard queue and use it to change the way embedded profiles are handled (see next section).
After processing the job, you can inspect the profiles embedded in the PDF file in InkWIZE by opening the Job Report for the processed file with the ***Job Properties*** menu item.

Ignoring CMYK objects with embedded profiles

In some workflows, especially in printshops, it is standard practice to remove the profiles in PDF files containing CMYK objects (images and vectors) having embedded profiles. The reason for this is the suspicion that the profiles were added incorrectly and would lead to problems in subsequent ICC conversion. In older versions of InkWIZE (up to Version 1.2.7), this procedure was the normal setting for Auto Setup queues and it still is in InkWIZE 2.0, if the AutoLink feature is not licensed. However if AutoLink is licensed embedded profiles are always taken into consideration when a new queue is generated with the Auto Setup Wizard. No damage is to be expected in the process, thanks to the DeviceLink profile conversions that preserve the separations and the primary and secondary colors. However, if you want an Auto Setup queue for normalizing and color conversion to ignore CMYK objects with

embedded profiles, or if you do not use the AutoLink function, please make the settings shown in the screenshot under CMYK on the ***Configurations/ Images/Vectors*** tab. These settings ensure that no embedded CMYK profiles are used. Instead, the ***Document Color Space*** is assumed, and conversion performed using the profiles set on the Document Color Space tab.



Check of the maximum total amount of color

For printshops, it is important that the data delivery specifications and the order confirmation clearly indicate the maximum total amount of color expected for the type of paper to be printed, and also the printing standard for which the data supplier should ideally prepare the printing data.
When printing on uncoated paper or newsprint, any marked transgression of the maximum total amount of color is a sign that the image data were not optimized for the respective printing standard. This is usually a case of image data for coated paper in offset printing.
When optimizing PDF files by means of standard queues in InkWIZE, you now have the following alternatives:

1. Limitation of the maximum total amount of color without changing the color appearance: ***Optimize Total Area Coverage or SaveInk*** option in the Auto Setup Wizard,
2. Conversion of the data from coated paper to uncoated paper/newsprint, including optimisation of the color appearance: ***Normalize and convert color to new output condition*** option in the Auto Setup Wizard.

It makes sense to view the results of optimisation on a softproof. If the result is better, you can offer the customer this conversion as chargeable data optimisation, including renewed approval.

Check for overprinting CMY objects without black

This tends to be quite a rare special case. With a view to maximum color stability in production printing, rapid drying, and ink savings, it makes sense for the printshop to use the Bodoni Systems SaveInk queues for all jobs, as far as possible.

However, if the rare case arises that an overprinting object in the PDF file is composed of all CMY colors without black, the color impression resulting from the overprinting object and the background may change following color optimisation. The root of the problem lies in the way that the overprinting of CMYK on CMYK is handled in the PDF standard. Only if there is no color in a channel in an overprinting object can you completely "see" the color of the same channel in the underlying object. As soon as there is just a minimal amount of color in a channel in the overprinting object, only the color component of the upper (overprinting) object is displayed and put onto the paper. However, since SaveInk replaces CMY components with black, it may well happen that areas previously containing no black are then composed with black, meaning that the overprinting properties change. If a case of this kind occurs, but you still want to apply the SaveInk function, you have to calculate a new SaveInk profile that preserves colors containing 0% black.

The Auto Setup queues in InkWIZE 2.0 and higher are optimized for every case and every color space, be it for CMYK, RGB, Gray or Multicolor data. Particularly because of their frequent occurrence in daily practice, special attention is, of course, still paid to PDF files containing pure CMYK data. Different processes for PDF conversion are triggered, depending on the option selected in the Auto Setup Wizard that you can use to easily create standard queues.

Handling of RGB objects with embedded profiles

If you use the standard ***Normalize and convert color to new output condition*** queue in the ***Auto Setup Wizard***, the colors of the RGB objects in the PDF file are converted to the CMYK color space of the document, after which the entire document is further processed using the DeviceLink profile. Embedded profiles and rendering intents in RGB objects are taken into account. When normalizing, all images not having an embedded profile are converted to the document color space using the sRGB profile, use being made of the preset ***Perceptual*** rendering intent. Black point compensation is generally activated, for the event that the embedded intent is relative colorimetric.

No normalizing takes place if ***Direct color conversion to new output condition*** is selected. To exploit the maximum color space, the RGB objects in the PDF files are converted directly to the target color space. However, embedded profiles and rendering intents are taken into account in the process. This guarantees consistent conversion and optimisation of the data. For RGB data without an embedded profile, it is assumed as standard that they are in the sRGB color space, and ***Standard Compression*** is used. Black point compensation is generally activated, for the event that the embedded intent is relative colorimetric.

Handling of CMYK objects with embedded profiles

If you use the standard ***Normalize and convert color to new output condition*** queue in the ***Auto Setup Wizard***, InkWIZE generally first converts the CMYK data to the document color space (normalizing). If an individual PDF object (image, graphic, text passage) has an embedded device profile, this setting leads to a situation where the device profile is not applied, but this profile information is taken into account during conversion with the DeviceLink profile (AutoLink). If a relative colorimetric rendering intent is active in the PDF object, InkWIZE performs conversion with black point compensation as standard.

After being normalized, the PDF document is optimized using the DeviceLink profile set on the ***Document Color Space*** tab. Using this option for color

conversion in a new print process delivers the most consistent results for color conversions, as it is recommended in the PDF/X specification.

If you activate the ***Direct color conversion to new output condition*** queue, direct conversion from the source color space to the output color space (target) is performed. In the event of direct color conversion, the RGB and CMYK objects are optimized with the DeviceLink profile, thanks to the AutoLink function. Embedded profiles/intents are taken into account.
For special cases, InkWIZE offers the option of deactivating color management for vector/text objects with the ***Vectors*** tab. In this way, you can, for example, take the embedded profile into account only for images and leave vector graphics unchanged.

The source and target profiles are identical when the ***Optimize Total Area Coverage or SaveInk*** setting is selected. This means that the optimized file stays in the same color space as the document color space.

Conversion of PDF files with transparencies

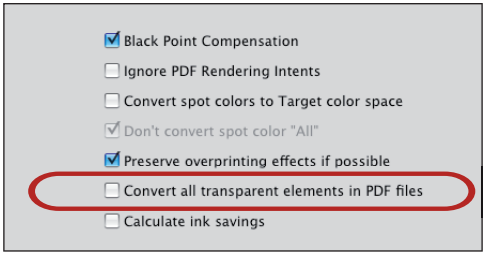
InkWIZE can be used for color management of PDF files containing transparencies. The InkWIZE approach for color conversion is that every object – with or without a transparency – is color-converted individually, the structure of the PDF document being preserved in the process.

When creating the PDF file, please note that the transparency color spaces of all objects should always be in the color model (CMYK or RGB) of the document color space (output intent). The default setting for the transparency color space in Adobe Creative Suite is CMYK. The type of transparency color space makes no difference to InkWIZE, since it can efficiently handle any color space.
However, as a result of transparencies, there are unfortunately so many possibilities regarding blending and the order of semi-transparent objects that there is no simple rule for avoiding unwanted color shifts when converting the colors of transparencies.

Flattening the transparencies prior to color conversion also often fails to produce the desired effect. Flattening in a DTP program or Adobe Acrobat may well result in unwanted conversions with color shifts. In addition, DTP programs do not use DeviceLink profiles, which would support the correct conversion of technical colors, among other things. Moreover, flattening in DTP programs also means that the resolution subsequently to be used for platesetting already has to be specified at a very early stage. The approach of

flattening in the DTP program contradicts the objective (from PDF/X-4) of retaining the transparencies up to the final process step.

Taking all these aspects into account, we therefore recommend that you first convert the colors of transparencies in InkWIZE and examine the converted file in a transparency-compatible PDF viewer (e.g. Adobe Acrobat 9). If the color-converted file looks correct, you can continue to work with it.


Black Point Compensation
Ignore PDF Rendering Intents
Convert spot colors to Target color space
Don't convert spot color "All"
Preserve overprinting effects if possible
Convert all transparent elements in PDF files
Calculate ink savings

If artifacts are evident in the file following color conversion, you should first deactivate the ***Convert all transparent elements in PDF files*** checkbox under ***Configuration/ Options***, and convert the colors of the file once again. In many cases, deactivating this option helps to preserve the impression of the original file (see also the example below), because InkWIZE excludes certain transparency modes from color conversion.

The option should, however, be activated as standard.

Original file with a transparency effect that causes the image to fade to white from the center

Visual artifacts following SaveInk conversion (hard edge and graying of the left-hand side of the image)

Perfect SaveInk conversion without flattening of the PDF file; „Convert all transparent elements“ option deactivated

If even deactivating the option is incapable of avoiding artifacts following color conversion, you need to flatten the file prior to color conversion. If transparencies need to be flattened, you have to use suitable tools for this step, separately from InkWIZE. If the objects exceed the required total area coverage after any flattening, you should subsequently reduce the total area coverage (TAC) in InkWIZE. It is therefore always advisable to check the total area coverage of the file after flattening.

Suggestion for applying SaveInk or TAC reduction to PDF files containing transparencies

If, before flattening, you want to be certain that all color spaces deviating from the document color space are correctly normalized with DeviceLink profiles, instead of being converted with standard ICC device profiles by the flattening tool, we advise you to use the ***Normalize to document color space or output intent*** option in the Auto Setup Wizard, convert the PDF and only then flatten transparencies. This is to be recommended particularly if you want to work with SaveInk or TAC reduction profiles, and unwanted color deviations appear during optimisation if the transparencies are not flattened. This means that you should apply a three-stage process:

1. Use InkWIZE to normalize the color spaces in PDF files containing transparencies. After normalizing, you should check the visual match between the PDF file and the original PDF file, e.g. in the Acrobat output preview, using the same color settings. On rare occasions, some transparency effects can already lead to visual problems during normalization. In such cases, you should dispense with normalization and flatten the PDF file directly instead.
2. If the file is visually OK after normalization, you can flatten it using a separate program.
3. Finally, apply the required SaveInk or TAC reduction profile in a separate queue in InkWIZE.

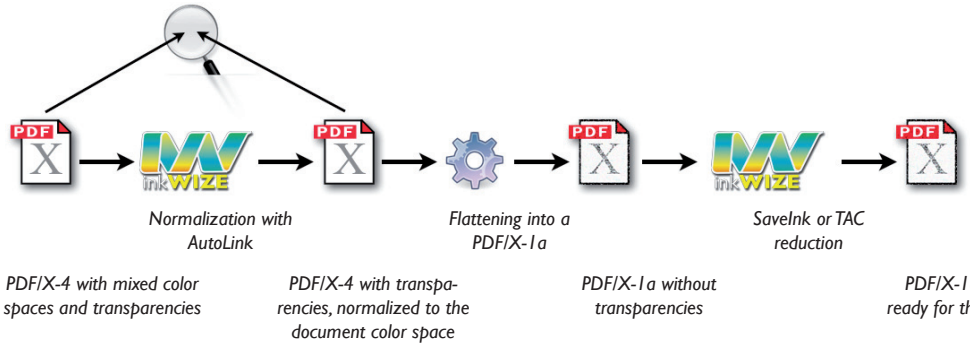

Checking for visual match, e.g. with Acrobat output preview
PDF
X
InkWIZE
Normalization with AutoLink
Flattening into a PDF/X-1a
SaveInk or TAC reduction
PDF/X-4 with mixed color spaces and transparencies
PDF/X-4 with transparencies, normalized to the document color space
PDF/X-1a without transparencies
PDF/X-1a file, ready for the press

Fig.: SaveInk workflow for PDFs containing transparencies

Transparencies may not make today's process workflow any easier, but it only takes a bit of skill to get to grips with them.

Conversion of spot colors to CMYK

Auto Setup queues do not change objects that contain additional spot colors. If InkWIZE is to be used, instead of the PDF preflighting program, to convert spot colors to the output profile, activate ***Configuration/ Options/Convert spot colors to target color space.*** Spot colors are then converted to the target profile in accordance with the "Alternate ColorSpace" and the InkWIZE RGB, CMYK or Lab settings. You can find further details on Page 54.

Compatibility with GWG patches

At www.gwg.org, the Ghent Working Group provides a number of PDF test files for assessing the behavior of PDF workflow applications. All GWG patches of the Output Suite Version 3.0 are rendered in a visually and technically correct manner, thanks to the special functions of InkWIZE for handling DeviceN colors, standard-compliant PDF/X processing, use of DeviceLink profiles, and the preservation of overprinting properties and transparency information.